

Keck AO Notes List

May 31, 2010

- 772 **NGAO Preliminary Design Compliance Matrix**
Christopher Neyman
- 771 **NGAO System Requirements Documents Preliminary Design Release**
Christopher Neyman

Keck AO Notes List

May 31, 2010

- 770 **NGAO Preliminary Design Report**
Peter Wizinowich
- 769 **NGAO Systems Engineering Management Plan**
Peter Wizinowich
- 768 **NGAO Preliminary Design Manual**
Peter Wizinowich
- 767 **NGAO AO Enclosure**
Mike Pollard, Ed Wetherell and Mike Hess
- 766 **NGAO AO Bench Cold Enclosure**
Mike Pollard
- 765 **Requirements for DAVINCI: the Diffraction limited Adaptive optics Visible and Infrared iNtegral Field spectrograph and Coronagraphic Imager (Reserved)**
Sean Adkins
- 764 **DAVINCI Background and Zero Point Estimates**
Sean Adkins and Elizabeth McGrath
- 763 **DAVINCI Pixel Scales and Sensitivities**
Sean Adkins
- 762 **NGAO PSF Metrics, Characterization and Reconstruction**
Al Conrad
- 761 **DAVINCI Overview and Optical Design Report**
Sean Adkins, Renate Kupke, Sergey Panteleev, Mike Pollard, and Sandrine Thomas
- 760 **NGAO PDR Charge and Design Review Process**
Peter Wizinowich
- 759 **NGAO System Facility Electrical Power and Cooling**
Jason Chin, Craig Nance, Chase Reed, and Ed Wetherell
- 758 **NGAO Keck II Laser Removal Plan**
Jason Chin
- 757 **NGAO Preliminary Design Project Report #24**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 756 **NGAO Aircraft Safety System**
Jason Chin
- 755 **NGAO Laser Clearing House Planning**
Jason Chin
- 754 **NGAO Laser Traffic Control System Modifications**
Jason Chin
- 753 **NGAO Safety System Interface Control Spreadsheet**
Jason Chin

Keck AO Notes List

May 31, 2010

- 752 **NGAO Safety System Controller Assembly**
Jason Chin
- 751 **NGAO Laser Guide Star Facility Subsystem Control Sequencing**
Jason Chin
- 750 **NGAO Laser Guide Star Facility Laser Systems Support**
Jason Chin
- 749 **NGAO Laser Guide Star Facility Laser Enclosure**
Jason Chin
- 748 **NGAO and the Keck Interferometer**
Peter Wizinowich
- 747 **DAVINCI Pupil Mask and Pupil Image Quality**
Sean Adkins
- 746 **NGAO Alignment, Calibration & Performance Monitoring PD mini-review Report**
Jim Lyke and Donald Gavel
- 745 **NGAO System Calibration Unit**
Thomas Stalcup
- 744 **NGAO Science Operations Tools (reserved)**
Al Conrad and Jim Lyke
- 743 **Reviewers' Final Report on the NGAO DAVINCI Instrument Mini Design Review**
Donald Gavel, Jim Lyke, Brian Bauman, and James Larkin
- 742 **NGAO Preliminary Design Phase Project Report #23**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 741 **NGAO Interface Control**
Peter Wizinowich and Christopher Neyman
- 740 **AIRSAFE: Long Term AIRSAFE Plan with TBAD Discussion, Justification and Performance Predictions**
Paul Stomski
- 739 **NGAO Calibration Methods and Procedures**
Christopher Neyman
- 738 **NGAO NGS WFS Mini-Review Committee Report**
Christopher Neyman, Thomas Stalcup, and Chris Lockwood
- 737 **NGAO Component Design Document (reserved)**
Douglas Morrison
- 736 **NGAO Controls Architecture Laser Sequence**
Douglas Morrison
- 735 **NGAO Controls Architecture AO Sequence**
Douglas Morrison
- 734 **Reviewers' Final Report on the NGAO Low-Order Wavefront Sensor (LOWFS) Mini Design Review**
Donald Gavel, Renate Kupke, and Sean Adkins

Keck AO Notes List

May 31, 2010

- 733 **NGAO Controls Software Mini-review Committee Report**
Kevin Tsubota and Al Conrad
- 732 **NGAO Data Server Preliminary Design**
Jimmy Johnson
- 731 **NGAO Motion Control Architecture Mini-design Review Reviewers' Final Report**
Donald Gavel, Tomas Krasuski, and Alex Delacroix
- 730 **NGAO TT and TTFA WFS Design Document**
J. Kent Wallace, Randal Bartos, and Gautam Vasisht
- 729 **NGAO NGS Wavefront Sensor Preliminary Design**
Viswa Velur, Alex Delacroix, and Richard Dekany
- 728 **NGAO Preliminary Design Phase Project Report #22**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 727 **NGAO Optical Design (reserved)**
Peter Wizinowich
- 726 **NGAO SolidWorks Model (reserved)**
Christopher Neyman
- 725 **NGAO DAVINCI Interface Control Document (ICD)**
Peter Wizinowich
- 724 **NGAO Mass Budget (reserved)**
Christopher Neyman
- 723 **NGAO Performance Flowdown Requirements Spreadsheet (reserved)**
Richard Dekany
- 722 **NGAO High Contrast Error Budget Tool (reserved)**
Richard Dekany
- 721 **NGAO Wavefront Error Budget Tool (reserved)**
Richard Dekany
- 720 **NGAO Preliminary Design Phase Risk Evaluation**
Peter Wizinowich, Richard Dekany, and Donald Gavel
- 719 **NGAO AO System Alignment Plan (Preliminary Design Version)**
Peter Wizinowich
- 718 **NGAO LGS and NGS Wavefront Sensor Cameras**
Sean Adkins
- 717 **Keck 2 Telescope Tube Flexure Measurements**
Thomas Stalcup
- 716 **NGAO Preliminary Design Wavefront Error Budget**
Peter Wizinowich
- 715 **NGAO Preliminary Motion Control Design**
Ed Wetherell, Kevin Tsubota and Jason Chin

Keck AO Notes List
May 31, 2010

- 714 **NGAO AO Control System Design Document**
Doug Morrison, Kevin Tsubota, and Jimmy Johnson
- 713 **LTCS URL Interface Specifications**
Douglas Summers
- 712 **NGAO Preliminary Design Phase Project Report #21**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 711 **NGAO Control Electronics Architecture Mini-Review Committee Report**
Thomas Stalcup, Richard Dekany and Tomas Krasuski
- 710 **Latency, Bandwidth and Control Loop Residual Relationships**
Donald Gavel
- 709 **NGAO System Power Budget**
Ed Wetherell
- 708 **Limits to AO Observations from Altitude-Azimuth Telescope Mounts**
Christopher Neyman
- 707 **NSF MRI Proposal “Development of an Improved K2 Laser Launch Facility”**
Peter Wizinowich, Andrea Ghez, Michael Liu, Claire Max, and Sean Adkins
- 706 **Summary of AURA Subaward for Sodium-Wavelength Lasers for Astronomical Adaptive Optics**
Peter Wizinowich
- 705 **NGAO AO-Level Control Loops**
Peter Wizinowich
- 704 **Opto-Mechanical Registration Tolerances for “go-to” Adaptive Optics**
Christopher Neyman and Donald Gavel
- 703 **NGAO Preliminary Design Phase Project Report #20**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 702 **Laser Clearinghouse Registration Response for Keck I LGS 0.589um 30W 1.03urad 80MHz Laser**
US Strategic Command and Randy Campbell
- 701 **NGAO Preliminary Electronics Design**
Ed Wetherell, Erik Johansson and Kevin Tsubota
- 700 **NGAO RTC Testing Document**
Marc Reinig and Donald Gavel
- 699 **NGAO LGS Wavefront Sensor Reviewer Report**
Peter Wizinowich
- 698 **NGAO Preliminary Design Phase Project Report #19**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 697 **NGAO RTC Mini-Design Review Committee Report**
Corinne Boyer, Erik Johansson, and Tuan Truong
- 696 **NGAO RTC Design Document**
Marc Reinig and Donald Gavel

Keck AO Notes List

May 31, 2010

- 695 **NGAO RTC Algorithms**
Don Gavel
- 694 **NGAO Opto-Mechanical Review Report**
Thomas Stalcup
- 693 **Flashing the MVME61000 Boot ROM**
Erik Johansson
- 692 **NGAO LGS WFS Report**
Richard Dekany
- 691 **NGAO Laser Preliminary Design Phase Report #18**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 690 **Technical Specification for the Laser System of the NGAO Facility on the Keck II Telescope**
Sean Adkins, C. Boyer, Jason Chin, Brent Ellerbroek, Christopher Neyman, and Peter Wizinowich
- 689 **NGAO Laser Launch Facility Review Report**
Olivier Martin, Renata Kupke, Viswa Velur
- 688 **NGAO Software Architecture Review Report**
Al Conrad, Richard Dekany, Kevin Tsubota, Don Gavel
- 687 **NGAO Preliminary Design Phase Project Report #17**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 686 **NGAO Laser Launch Facility System Performance**
Jim Bell, Jason Chin, Drew Medeiros, Thomas Stalcup, and Ed Wetherell
- 685 **Keck NGAO Optical Relay Design**
Renate Kupke and Chris Lockwood
- 684 **Uptime and Reliability Analysis for NGAO**
Christopher Neyman
- 683 **NGAO Preliminary Design Phase Project Report #16**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 682 **NGAO Master Device List**
Ed Wetherell
- 681 **Keck NGAO Preliminary Design Phase Project Report #15**
Peter Wizinowich, Sean Adkins and the NGAO Team
- 680 **Telescope Vibration Mitigation for NGAO**
Christopher Neyman
- 679 **NGAO Control Software Architecture**
Erik Johansson, Jimmy Johnson, and Douglas Morrison
- 678 **Keck NGAO External (CA/KTL) Interfacing**
Jimmy Johnson, Douglas Morrison, and Erik Johansson
- 677 **Keck NGAO Alarm Subsystem and Service**
Jimmy Johnson, Douglas Morrison, and Erik Johansson

Keck AO Notes List

May 31, 2010

- 676 **NGAO Software Architecture Configuration Service**
Douglas Morrison
- 675 **NGAO Software Architecture Tasks**
Douglas Morrison
- 674 **NGAO Software Architecture Sequencer Architecture Design**
Douglas Morrison
- 673 **NGAO Software Architecture Logging Service**
Douglas Morrison
- 672 **NGAO Software Architecture Connection Service**
Douglas Morrison
- 671 **Keck NGAO Container Component Model**
Jimmy Johnson, Douglas Morrison, and Erik Johansson
- 670 **Keck NGAO Preliminary Design Phase Project Report #14**
Peter Wizinowich and the NGAO Team
- 669 **NGAO A Slow Tip-Tilt Mount for the Narrow-Field Deformable Mirror**
Peter Wizinowich
- 668 **NGAO Device Control Architecture**
Ed Wetherell and Erik Johansson
- 667 **NGAO Science Instrumentation Baseline Capabilities Summary**
Sean Adkins, James Larkin, Claire Max, and Elizabeth McGrath
- 666 **NGAO Fixed Pupil Mode**
Peter Wizinowich and Elizabeth McGrath
- 665 **NGAO Preliminary Design Phase Report #13**
Peter Wizinowich, the NGAO Team and Sean Adkins
- 664 **Project Closeout Report for the next Generation Wavefront Controller Project**
Paul Stomski
- 663 **K1 Laser Clearinghouse Registration Submission**
Jason Chin and Thomas Stalcup
- 662 **NGAO Laser Launch Facility Beam Transport Optics (BTO)**
Jim Bell, Jason Chin, Drew Medeiros, Thomas Stalcup, and Ed wetherell
- 661 **NGAO Laser Launch Facility Switchyard**
Jim Bell, Jason Chin, Drew Medeiros, Thomas Stalcup, and Ed Wetherell
- 660 **OSIRIS Calibration System Requirements and Design**
Jason Chin
- 659 **NGAO Laser Launch Facility Beam Generation System (BGS)**
Jim Bell, Jason Chin, Drew Medeiros, Thomas Stalcup, and Ed Wetherell
- 658 **NGAO Science Advisory Team Charter**
Peter Wizinowich

Keck AO Notes List

May 31, 2010

- 657 **Characterizing the Air Traffic over Maunakea**
Paul Stomski
- 656 **NGAO Preliminary Design Phase Report #12**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 655 **NGAO Real Time Computer Interface Concept**
Andrew Cooper
- 654 **Use of Aircraft Spotters for Laser Safety**
Jimmy Johnson and Erik Johansson
- 653 **NGAO Preliminary Design Phase Report #11**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 652 **NGAO Real Time Computer Interface Concept**
Jimmy Johnson and Erik Johansson
- 651 **All Sky Camera Hardware Integration Design Review**
Klaus Ulander
- 650 **NGAO Build-to-Cost Review Report**
Committee Report – Brent Ellerbroek (TMT), Michael Liu (UH), and Jerry Nelson (UCSC)
- 649 **ASTRO2010 NGAO Activity Report**
Peter Wizinowich
- 648 **NGAO Build-to-Cost Review Presentation**
Taft Armandroff and Hilton Lewis
- 647 **NGAO Software Standards Proposal**
Jimmy Johnson and Erik Johansson
- 646 **NGAO Preliminary Design Project Report #10**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 645 **NGAO Guidelines for the Initial Review of the Functional Requirements**
Erik Johansson and Christopher Neyman
- 644 **NGAO Build-to-Cost Architecture Performance Analysis**
Richard Dekany, Christopher Neyman, Peter Wizinowich, Elizabeth McGrath, Claire Max
- 643 **NGAO Motion Control Architecture Study**
Ed Wetherell, Erik Johansson, and Jason Chin
- 642 **NGAO Design Changes in Support of Build-to-Cost**
Peter Wizinowich, Sean Adkins, Richard Dekany, Don Gavel, Claire Max and NGAO Team
- 641 **Proximity to Restricted Airspace (reserved)**
Paul Stomski, Bob Goodrich and Randy Campbell
- 640 **Calculation of the Stellar Visual Magnitude Equivalent of Aircraft lights at various distances**
Paul Stomski and Bob Goodrich
- 639 **NGAO Launch Telescope Acceptance Report (reserved)**
Sergey Panteleev

Keck AO Notes List

May 31, 2010

- 638 **NGAO Functional Requirements Approval and change Processes**
Erik Johansson, Richard Dekany, and Christopher Neyman
- 637 **NGAO Preliminary Design Phase Project Report #9**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 636 **NGAO Observing Operations Concept Document (Draft)**
David le Mignant, Franck Marchis, E. McGrath, Peter Wizinowich, and NGAO Team
- 635 **Sharpening of Natural Stars Using Deployable Laser Guide Stars for NGAO**
Christopher Neyman and Richard Dekany
- 634 **NGAO Preliminary Design Phase Project Report #8**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 633 **K1 LGS Launch Telescope Temperature Induced Focus**
Jason Chin and Sergey Panteleev
- 632 **K1 LGS Launch Telescope Coma Characterization**
Jason Chin and Sergey Panteleev
- 631 **K1 LGS Launch Telescope Acceptance Report**
Jason Chin and Sergey Panteleev
- 630 **NGAO Preliminary Design Phase Project Report #7**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 629 **Wavefront Error Budget Comparison between Keck NGAO and TMT NFIRAOS**
Christopher Neyman and Richard Dekany
- 628 **NGAO Optical Relay Redesign Evaluation**
Don Gavel, R. Kupke, C. Lockwood, and Peter Wizinowich
- 627 **NGAO Preliminary Design Project Report #6**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 626 **PSF Reconstruction for Keck AO – Phase 1 Final Report**
Ralf Flicker
- 625 **NGAO: Cost Comparison with First Light TMT AO**
Peter Wizinowich, Richard Dekany, Don Gavel
- 624 **Installation and Implementation of the K1AO Sodium Dichroic (draft)**
David Le Mignant, Olivier Martin, Christopher Neyman, Sergey Panteleev, and Thomas Stalcup
- 623 (nothing assigned)
- 622 **NGAO Preliminary Design Phase Project Report #5**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 621 **The Noise Propagator for Laser Tomography Adaptive Optics**
Don Gavel
- 620 **Sequel to the LBWFS lenslet array upgrade**
Marcos van Dam, Erik Johansson, Christopher Neyman, and Marc Kassiss

Keck AO Notes List

May 31, 2010

- 619 **Problems attaining FCS and WCS Focus**
Marcos van Dam
- 618 **NGAO Preliminary Design Phase Project Report #4**
Peter Wizinowich
- 617 **Laser Guide Star Adaptive Optics**
Paul Stomski, Steve Shimko, and Bob Goodrich
- 616 **LGS AO: An Update for the SAE Subcommittee on Laser Safety Hazards**
Paul Stomski, Steve Shimko, and Bob Goodrich
- 615 **Current and Future Plans for Aircraft Safety Control Measures at W. M. Keck Observatory**
Paul Stomski
- 614 **Airport Flight Hazard Zones near W. M. Keck Observatory**
Paul Stomski and Kim Sweeney
- 613 **Laser Guide Star Adaptive Optics and the Keck Interferometer**
Peter Wizinowich and Jason Chin
- 612 **NGAO Preliminary Design Phase Project Report #3**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 611 **PSF reconstruction at WMKO: Development, implementation and validation of PSF reconstruction techniques**
David Le Mignant and Ralf Flicker
- 610 **Could the dome from the other telescope block the laser or the FOV of the IR boresite camera?**
Paul Stomski
- 609 **K1 LGS AO System Beam Injection Module Detailed Design Review**
Jason Chin, Kenny Grace, and Sergey Panteleev
- 608 **Characterization of the Spare CCD-39**
Erik Johansson
- 607 **NGAO PD Project Report #2**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 606 **Low-order wavefront sensing in tomographic multi-beacon AO systems (SPIE 2008)**
Viswa Velur, Ralf Flicker, Richard Dekany, Gustavo Rahmer, Roger Smith and Anna Moore
- 605 **The Science Case for the NGAO System at W. M. Keck Observatory (SPIE 2008)**
Claire Max, E. McGrath, Don Gavel, David Le Mignant, Peter Wizinowich, Richard Dekany
- 604 **Concept for the Keck Next Generation Adaptive Optics System (SPIE 2008)**
Don Gavel, Richard Dekany, Claire Max, Peter Wizinowich, Sean Adkins, et al.
- 603 **Strategy for laser guide star operations without human aircraft spotters (SPIE 2008)**
Paul Stomski, Bob Goodrich, Steve Shimko
- 602 **AO Operations at the W. M. Keck Observatory (SPIE 2008)**
Randall Campbell, David, Le Mignant, Marcos van Dam, Al, Conrad, Kenny Grace, Marc Kassis, et al.

Keck AO Notes List

May 31, 2010

- 601 **Sharpening of Natural Guide Stars for low-order wavefront sensing using patrolling LGS (SPIE 2008)**
Richard Dekany, Christopher Neyman, and Ralf Flicker
- 600 **Keck Next Generation Adaptive Optics Preliminary Design Phase Project Report #1**
Peter Wizinowich, NGAO Team, and Sean Adkins
- 599 **W. M. Keck Observatory's Next Generation Adaptive Optics Facility: Science Operations (SPIE 2008)**
David Le Mignant, Christopher Neyman, and Elizabeth McGrath.
- 598 **Upgrading the Keck AO wavefront controllers (SPIE 2008)**
Erik Johansson, Marcos van Dam, Paul Stomski, James Bell, Jason Chin, Roger Sumner, Peter Wizinowich, et al.
- 597 **W. M. Keck Observatory's Next Generation Adaptive Optics (SPIE 2008)**
Peter Wizinowich, Richard Dekany, Don Gavel, and Claire Max, Sean Adkins, et al.
- 596 **NGAO SDR: SSC Recommendations and Response (draft)**
Peter Wizinowich, Richard Dekany, Don Gavel, and Claire Max
- 595 **NGAO Preliminary Design Phase Replan (draft)**
Peter Wizinowich, Richard Dekany, Don Gavel, and Claire Max
- 594 **NGAO Plan to Address Phased Implementation and Descope Options (draft)**
Peter Wizinowich, Richard Dekany, Don Gavel, and Claire Max
- 593 **Response to NGAO SDR Panel Recommendations**
Peter Wizinowich, Richard Dekany, Don Gavel, and Claire Max
- 592 **K1 LGS AO LTA Input Beam Size**
Roger Sumner
- 591 **K1 LGS AO Beam Transfer Optical Bench Final Design**
Roger Sumner and Sergey Panteleev
- 590 **K1 LGS AO Beam Transfer Optical Bench Alignment**
Sergey Panteleev
- 589 **K1 LGS AO Appendix: Detailed Design Report Design Compliance**
Jason Chin
- 588 **NGAO System Design Review: Review Panel Report**
Norbert Hubin, Bob Fugate, Brent Ellerbroek, Andrea Ghez, Gary H. Sanders and Nick Scoville
- 587 **K1 LGS AO DDR Charter**
Paul Stomski and Jason Chin
- 586 **K1 LGS AO DDR Report**
Team K1 LGS AO
- 585 **State of K1 and K2 AO Optic Benches**
Marcos van Dam
- 584 **NGAO System Design Review Presentation**
April 21, 2008 SDR – Team NGAO
- 583 **NGAO Work Breakdown Structure Definitions**
Erik Johansson and Richard Dekany

Keck AO Notes List
May 31, 2010

- 582 **NGAO Guide Star Laser Systems**
Sean Adkins
- 581 **NGAO System Integrations and Test Plans**
Christopher Neyman, David Le Mignant, and Peter Wizinowich
- 580 **Requirements Management Software for NGAO**
Erik Johansson
- 579 **K1 LGSAO Deliverables and Success Criteria for the Integration Phases**
David Le Mignant and Jason Chin
- 578 **US Space Command Changes and the affects on Keck LGSAO Operations**
Randy Campbell
- 577 **NGAO Pre-observing Tools: Initial Requirements and Conceptual Design**
David Le Mignant and E. McGrath
- 576 **K1 LGS AO: HQ Vibration Testing**
Craig Nance
- 575 **NGAO System Design Report**
Peter Wizinowich, Richard Dekany, Don Gavel, Claire Max, and NGAO Team
- 574 **NGAO Systems Engineering Management Plan**
- 573 **NGAO Functional Requirements Document**
Christopher Neyman, Viswa Velur, and Erik Johansson
- 572 **NGAO Instrument Baseline Requirements Document**
Peter Wizinowich
- 571 **(not assigned)**
- 570 **NGAO Laser Facility System Design Report**
- 569 **NGAO Control System Design Report**
Erik Johansson, David Le Mignant, Christopher Neyman, and Viswa Velur
- 568 **NGAO Alignment, Calibration & Diagnostics System Design Report**
Christopher Neyman
- 567 **NGAO Acquisition System Design Report**
Christopher Neyman and David Le Mignant
- 566 **NGAO System Design Phase Programmatic Risk Evaluation**
Peter Wizinowich and Claire Max
- 565 **Prototyping for the NGAO LOWFS Assembly**
Anna Moore
- 564 **NGAO Laser Enclosure System Design**
Drew Medeiros
- 563 **NGAO AO Enclosure System Design**
Jim Bell

Keck AO Notes List

May 31, 2010

- 562 **NGAO Interim LOWFS and LGS Object Selection Mechanism conceptual study**
Anna Moore and Viswa Velur
- 561 **K1 LGS AO Preliminary Design Review Strap and LBWFS Concerns (DRAFT)**
Jason Chin and Christopher Neyman
- 560 **K1 LGS AO Project Team Responses to Preliminary Design Review Committee Report**
Jason Chin and K2 LGS Project Team
- 559 **K1 LGS AO PDR Committee Final Report**
Randy Campbell, Liz Chock, Yutaka Hayano, Mike Liu, Rich Matsuda and Mike Sheehan
- 558 **Dithering and offsetting with NGAO: possible designs**
David Le Mignant and Christopher Neyman
- 557 **NGAO System Design Phase Project Report #6**
Peter Wizinowich, Richard Dekany, Don Gavel, Claire Max, and NGAO team
- 556 **Detectors for NGAO Instrumentation**
Sean Adkins
- 555 **NGAO AO System to Instrument Interface Definitions**
Sean Adkins
- 554 **NGAO System Passband Definitions**
Sean Adkins
- 553 **NGAO Real-time Control Conceptual Design Report**
NGAO team
- 552 **NGAO Atmospheric Profiler Conceptual Design Report**
Christopher Neyman
- 551 **K1 LGS AO Schedule Options**
Jason Chin and Paul Stomski
- 550 **NGAO System Configurations Spreadsheet**
Peter Wizinowich
- 549 **NGAO Cascaded Relay Opto-mechanical Conceptual Design**
Kupke, Lockwood, Bauman, Gavel, Wizinowich, Neyman, Moore, Velur, and Bell
- 548 **NGAO Roll-up of AO and Instrument Requirements: The Rainbow Chart**
Team NGAO
- 547 **Response to K1 LGS PDR Questions**
Jason Chin and Paul Stomski
- 546 **NGAO System Design Cost Estimation Guidelines**
Richard Dekany
- 545 **K1 LGS AO Schedule Options**
Jason Chin and Paul Stomski
- 544 **K1 LGS AO Compliance Matrix**
Jason Chin and Paul Stomski

Keck AO Notes List

May 31, 2010

- 543 **K1 LGS AO User Tools and Integrations Tasks**
Marcos van Dam
- 542 **K1 LGS AO Schedule Issues**
Jason Chin and Paul Stomski
- 541 **K1 LGS AO Mitsubishi Fiber Spec and Data**
Mitsubishi Cable Industries, Ltd.
- 540 **K1 LGS AO Galileo Avionica LTA Design Optical Analysis**
Galileo Avionica
- 539 **K1 LGS AO Galileo Avionica LTA Design Finite Element Analysis**
Galileo Avionica
- 538 **K1 LGS AO HQ Vibration Testing**
Craig nance
- 537 **K1 LGS AO Preliminary Design Review Report**
Jason Chin, Paul Stomski, et al.
- 536 **K1 LGS AO Flowdown Requirements**
Christopher Neyman and Jason Chin
- 535 **K1 LGS AO LTA Mounting Assembly Preliminary Design Report**
Drew Medeiros and Jason Chin
- 534 **K1 LGS AO Fiber Testing Results**
Kenny Grace, Yutaka Hayano, Ito Meguro, R. Wyman
- 533 **K1 LGS AO Fiber Test Plan**
Kenny Grace
- 532 **K1 LGS AO LTA Design Review Report**
Roger Sumner and Jason Chin
- 531 **K1 LGS AO Fiscal Year End Summary 2007**
Jason Chin
- 530 **K1 LGS AO BTOS Performance Budget**
Viswa Velur
- 529 **NGAO: Optimum Pixel Sampling for Asteroid Companion Studies**
M. Baek, F. Marchis, E. McGrath, and D. Le Mignant
- 528 **K1 LGS To Do**
Marcos van Dam
- 527 **Focus on the WFS**
Marcos van Dam, David Le Mignant, Roger Sumner
- 526 **K1 LGS AO Safety System Requirements**
Jason Chin and Kenny Grace
- 525 **K1 LGS AO Safety System Design Report**
Jason Chin

Keck AO Notes List

May 31, 2010

- 524 **K1 LGS AO OSIRIS Move Issues**
Jason Chin and Drew Medeiros
- 523 **K1 LGS AO HQ Testing Plan and Requirements**
Jason Chin
- 522 **K1 LGS AO BTOB Preliminary Design**
Roger Sumner and Sergey Panteleev
- 521 **K1 LGS AO Beam Injection Module Requirements**
Viswa Velur, Jason Chin, and Kenny Grace
- 520 **K1 LGS AO Beam Injection Module Design**
Viswa Velur, Jason Chin, and Kenny Grace
- 519 **K1 LGS AO System Laser Service Enclosure Design Report**
Jason Chin
- 518 **The LBWFS lenslet array upgrade**
Marcos van Dam
- 517 **The NGWFC Control Algorithms**
Erik Johansson and Marcos van Dam
- 516 **Keck Next Generation Adaptive Optics System Design Phase Early-FY08 Replan**
Peter Wizinowich, Richard Dekany, Don Gavel, C. Max, E. Johansson, D. Le Mignant, C. Neyman
- 515 **NGAO: How to query the TRS from IDL**
Erik Allaert, Jimmy Johnson, Erik Johansson and Marcos van Dam
- 514 **NGAO System Design Phase Project Report #5**
Peter Wizinowich, Richard Dekany, D. Gavel & C. Max + NGAO team
- 513 **Keck I LGS AO Science Instrument Selection**
Peter Wizinowich, Sean Adkins, Randy Campbell, Bob Goodrich, David Le Mignant, Marcos van Dam
- 512 **NGAO System Design Phase Project Report #4**
Peter Wizinowich, Richard Dekany, D. Gavel & C. Max + NGAO team
- 511 **NGAO System Design Manual**
Peter Wizinowich
- 510 **NGAO Preliminary Technical Risk Evaluation**
Christopher Neyman
- 509 **NGAO Uplink Compensation Trade Study**
Don Gavel, Viswa Velur
- 508 **PowerPoint Presentation for the NGWFC Performance Review**
Paul Stomski
- 507 **NGWFC Performance Verification Committee Questions w/answers**
Paul Stomski
- 506 **NGWFC Split Relay Architecture Evaluation**
Velur, Gavel, Bauman, and Lockwood

Keck AO Notes List

May 31, 2010

- 505 **NGWFC Performance Verification Report**
Erik Johansson, Paul Stomski, Marcos van Dam
- 504 **NGAO Performance vs. Technical Field of View for LOWFS Guide Stars**
Richard Dekany
- 503 **Mauna Kea Ridge Turbulence Models**
Richard Dekany
- 502 **NGAO: Keck AO Upgrade Engineering Costs**
Peter Wizinowich
- 501 **NGAO Background and Transmission Budgets**
Antonin Bouchez
- 500 **NGAO: Keck AO Upgrade Programmatic Feasibility**
Peter Wizinowich
- 499 **NGAO System Architecture Definition**
Anna Moore, Liz McGrath, Richard Dekany, et al.
- 498 **Galileo Avionics K1 Launch Telescope Assembly Design Review Report**
Roger Sumner and Jason Chin
- 497 **NGAO High-contrast & companion sensitivity performance budget**
Ralf Flicker, Bruce Macintosh, Richard Dekany, Michael Liu, Christopher Neyman
- 496 **Atmospheric turbulence statistics from the MASS/DIMM unit (T6) at the Mauna Kea 13 North site**
Ralf Flicker and Christopher Neyman
- 495 **Summary of NGAO Trade Studies**
Christopher Neyman
- 494 **NGAO Project Report #3**
Peter Wizinowich, Richard Dekany, Don Gavel, Claire Max and NGAO Team
- 493 **NGAO Science Instrument Reuse Trade Study Report**
Anna Moore and Sean Adkins
- 492 **Null-modes and quadratic mode tomography error in LGS-based multi-beacon tomography AO systems**
Ralf Flicker and Christopher Neyman
- 491 **NGAO Performance Budget Summary**
Peter Wizinowich
- 490 **Rayleigh rejection trade study report**
Viswa Velur, Antonin Bouchez, Christopher Neyman, and Don Gavel
- 489 **Performance of the Keck II AO System**
Marcos van Dam, Erik Johansson, Paul Stomski, Roger Sumner, Jason Chin and Peter Wizinowich
- 488 **Effect of Rayleigh scattering on the wavefront sensor**
Marcos van Dam and Kenny Grace
- 487 **NGAO trade study report: LOWFS architecture**
Ralf Flicker and Viswa Velur

Keck AO Notes List

May 31, 2010

- 486 Status of the NGWFC on Keck II**
Paul Stomski
- 485 NGAO Trade Study: Adaptive Secondary Mirror**
Peter Wizinowich
- 484 Optical Standards for NGAO Design**
Peter Wizinowich
- 483 Keck NGAO Trade Study: Keck Interferometer Support**
Christopher Neyman, Viswa Velur and Junichi Meguro
- 482 Keck Telescope Wavefront Errors: Implications for NGAO**
Christopher Neyman and Ralf Flicker
- 481 NGAO System Design Phase Replan**
Peter Wizinowich et al.
- 480 NGAO Astrometry Performance**
Peter Wizinowich et al.
- 479 Measured Laser Guide Star Aberrations after Implementation of the NGWFC on Keck II**
R. Clare and M. van Dam
- 478 Modeling Laser Guide Star Aberrations**
R. Clare and M. van Dam
- 477 Modeling low order aberrations in laser guide star adaptive optics systems**
R. Clare and M. van Dam
- 476 NGAO Observing Model Trade Study**
P. Wizinowich
- 475 Tomography Codes Comparison and Validation for NGAO**
Don Gavel and Christopher Neyman
- 474 AO Photometry for NGAO**
P. Wizinowich
- 473 Keck NGAO System Design Phase Report #2**
P. Wizinowich
- 472 NGAO Trade Study Report: GLAO for Non-NGAO Instruments**
P. Wizinowich
- 471 NGAO Wavefront Error and Ensquared Energy Budgets**
P. Wizinowich
- 470 Keck NGAO Sky Coverage Modeling**
P. Wizinowich
- 469 Effect of Keck Segment Figure Errors on Keck AO Performance**
C. Neyman, R. Flicker and S. Panteleev
- 468 An Algorithm for Reconstruction of Keck Telescope Segment Figures**
C. Neyman

Keck AO Notes List

May 31, 2010

- 467 **AO Status and FY08 Planning**
P. Wizinowich et al.
- 466 **Computer Simulations of Adaptive Optics Point Spread Functions for NGAO**
Christopher Neyman
- 465 **NGAO Laser Guide Star Wavefront Sensor: Type and number of sub-apertures trade study**
V. Velur
- 464 **K2 STRAP Head Unit Troubleshooting and Removal Procedure**
Jason Chin
- 463 **Lessons learned on LGS operations: Weather Impact, Efficiency & Science Operations Model**
David Le Mignant
- 462 **NGAO Trade Study: Keck AO Upgrade**
P. Wizinowich et al
- 461 **Wavefront Error Budget Predictions & Measured Performance for Current and Upgraded Keck AO**
P. Wizinowich, R. Dekany, M. van Dam
- 460 **Next Generation Wave Front Controller (NGWFC) Readiness Review Committee Report**
Al Conrad (chair), Tomas Krasuski, Jim Lyke, Kevin Tsubota, and Sam Ragland
- 459 **Keck NGAO System Design Phase Report #1**
P. Wizinowich, R. Dekany, D. Gavel & C. Max
- 458 **Status of the NGWFC on Keck I**
Erik Johansson, Paul Stomski, Marcos van Dam
- 457 **Keck II NGWFC Readiness Committee Initial Questions/Comments with Development Team Responses**
Paul Stomski
- 456 **NGAO System Requirements Document**
Peter Wizinowich
- 455 **NGAO Science Case Requirements Document**
Claire Max, Elizabeth McGrath and Peter Wizinowich
- 454 **K1 LGS Adaptive Optics Fiber Relay Issues**
Chris Neyman
- 453 **NGWFC Readiness for Installation on Keck II**
Jason Chin, Erik Johansson, Paul Stomski, Roger Sumner, Marcos van Dam, Peter Wizinowich
- 452 **NGAO Multi-Object Adaptive Optics and Multi-Conjugate Adaptive Optics Architectures System Design Trade Study**
Donald Gavel, UCO/Lick Observatory
- 451 **TSS Misalignment on the Keck II AO bench**
Marcos van Dam
- 450 **LGS Adaptive Optics LBWFS Lenslet requirements document**
Stephan Kellner and Roger Sumner

Keck AO Notes List

May 31, 2010

- 449 **K1 LGSAO SHARC-manual**
Stephan Kellner, input from Jason Chin, James Larkin, Shelly Wright, Jason Weiss, Marcos van Dam and Al Honey
- 448 **K1 LGSAO BTOB Requirements v1.1**
Stephan Kellner, Roger Sumner, Jason Chin
- 447 **K1 LGS System Design Manual v1.2**
Jason Chin, Peter Wizinowich
- 446 **K1 LGS AO System Requirements v1.1**
Jason Chin, Peter Wizinowich
- 445 **System Engineering Management Plan v3.doc**
Jason Chin, Peter Wizinowich
- 444 **K1 LGS AO SOD Recommendations**
Stephan Kellner
- 443 **K1 LGS AO Bench Functional Requirements**
Jason Chin, Peter Wizinowich
- 442 **K1 LGS Adaptive Optics TSS Requirements**
Stephan Kellner, Jason Chin, Paul Stomski, Marcos van Dam, Jim Bell, Junichi Meguro, Randy Campbell
- 441 **K1 LGS Adaptive Optics System Integration V1.2**
Marcos van Dam, Jason Chin, Douglas Summers
- 440 **K1 LGS Adaptive Optics System Design Report**
Jason Chin
- 439 **K1 LGS Adaptive Optics STRAP_and_CCD Comparison**
Stephan Kellner
- 438 **K1 LGS Adaptive Optics Safety System Requirements**
Jason Chin, Kenny Grace
- 437 **K1 LGS Adaptive Optics OSIRIS Move Requirements v1.0**
Jason Chin
- 436 **K1 LGS Adaptive Optics LTA Requirements_v5.0**
Jason Chin, Drew Medeiros, Stephan Kellner, Roger Sumner
- 435 **K1 LGS Adaptive Optics LTA Mount Assembly Requirements v2.0 (draft)**
Drew Medeiros, Jason Chin
- 434 **K1 LGS Adaptive Optics LBWFS Performance and Recommendation (draft)**
Marcos van Dam, updated by Stephan Kellner
- 433 **K1 LGS Adaptive Optics Laser Service Enclosure Requirements v3.1 (draft)**
Jason Chin, Drew Medeiros, Craig Nance
- 432 **K1 LGS Adaptive Optics HIRES Considerations for Installing LSE (draft)**
Craig Nance, Drew Medeiros, Jason Chin
- 431 **K1 Laser Guide Star Adaptive Optics System Free Space Beam Propagation Requirements – draft**
Chris Neyman, Drew Medeiros, Jason Chin

Keck AO Notes List

May 31, 2010

- 430 **Initial Testing of the Microgate Chopper**
Erik Johansson
- 429 **NGAO Trade Study Report: LGS Asterism Geometry and Size**
Ralf Flicker
- 428 **Implication and Requirements and Interferometry with Next Generation Optics**
Christopher Neyman
- 427 **Fixed vs. Variable LGS Asterism Cost/Benefit Study for NGAO**
V. Velur – Caltech Optical Observatories
- 426 **Modeling low order aberrations in laser guide star adaptive optics systems**
Richard Clare, Marcos van Dam and Antonin Bouchez
- 425 **Influence of moon light on tip-tilt sensing accuracy using STRAP**
Stephan Kellner, David Le Mignant and Marcos van Dam
- 424 **Telescope Alignment of the Keck I and Keck II Pupils**
Marcos van Dam
- 423 **Feasibility of LGS AO observations guiding on very bright guide stars**
Marcos van Dam
- 422 **Comparison of STRAP, CCD39 and CCID56 in tip-tilt centroiding accuracy**
Stephan Kellner
- 421 **NGWFC K1 Connections for Tip/Tilt Mirror**
Jason Chin
- 420 **Accessing the Mauna kea Thirty Meter Telescope Seeing & Weather Data**
Christopher Neyman
- 419 **Simple Models for the Prediction of Na Laser Guide Star Brightness and Comparison to Measured Returns from the Gemini and Keck Lasers**
Christopher Neyman
- 418 **Strehl from a Single-mode Fiber**
Christopher Neyman
- 417 **Sodium Abundance Data Compiled from the Maui Mesosphere and Lower Thermosphere Experiment**
Christopher Neyman
- 416 **Estimating the Atmospheric Sodium Density from Keck Laser Guide Star Photometry**
Christopher Neyman
- 415 **Mauna Kea turbulence statistics from the TMT MASS/DIMM and weather station at the 13 North site**
Ralf Flicker
- 414 **Keck Next Generation Adaptive Optics: System Design Phase System Engineering Management Plan (In Progress)** Peter Wizinowich
- 413 **Reverting NGWFC**
Paul Stomski

Keck AO Notes List

May 31, 2010

- 412 SHARC MANUAL - a practical guide**
Stephan Kellner, Jason Chin, Marcos van Dam, Al Honey, James Larkin, Jason Weiss and Shelly Wright
- 411 Quasi-static aberrations induced by laser guide stars in adaptive optics**
Marcos van Dam, Antonin Bouchez, David Le Mignant, Peter Wizinowich
2006 Optical Society of America
- 410 Finding the focus of a wavefront sensing CCD**
Marcos van Dam
18 July 2006
- 409 NGAO Presentation to the SSC-6/21/06**
Peter Wizinowich, Michael Liu, Claire Max, Franck Marchis, Sean Adkins et al.
21 June 2006
- 408 LGS AO Catastrophic Risk Reduction**
P. Wizinowich, D. Le Mignant, J. Chin, D. Summers, R. Campbell, E. Johansson, R. Lafon, K. Grace
14 July 2006
- 407 NGWFC Readiness for Installation of Keck I (document in process)**
Paul Stomski
13 July 2006
- 406 Second Generation Laser Traffic Control; Algorithm Changes Supporting Mauna Kea, La Palma, and Future Multi-Telescope Laser sites**
Douglas Summers, Nikolaos Apostolakos, René Rutten, Gordon Talbot
SPIE Vol. 6272, July 2006
- 405 LGS AO at W. M. Keck Observatory: routine operations and remaining challenges**
David Le Mignant, Marcos A. van Dam, Antonin H. Bouchez, Jason C. Y. Chin, Elizabeth Chock, Randall D. Campbell, Al Conrad, Steve Doyle, Robert W. Goodrich, Erik M. Johansson, Shui H. Kwok, Robert E. Lafon, James E. Lyke, Christine Melcher, Ronald P. Mouser, Douglas M. Summers, Paul J. Jr. Stomski Cynthia Wilburn and Peter L. Wizinowich
SPIE Vol. 6272, July 2006
- 404 LGS AO Operations at the W. M. Keck Observatory**
David Le Mignant, David Le Mignant, Randall D. Campbell, Antonin H. Bouchez, Jason C. Y. Chin, Elizabeth Chock, Al Conrad, Marcos A. van Dam, Steve Doyle, Robert E. Goodrich, Erik M. Johansson, Robert E. Lafon, James E. Lyke, Christine Melcher, Ronald P. Mouser, Douglas M. Summers, Cynthia Wilburn and Peter L. Wizinowich
SPIE Vol. 6270, July 2006
- 403 Adaptive Optics Developments at Keck Observatory**
Peter Wizinowich, Jason Chin, Erik Johansson, Stephan Kellner, Robert Lafon, David Le Mignant, Chris Neyman, Paul Stomski, Doug Summers, Roger Sumner, Marcos van Dam
SPIE Vol. 6272, July 2006
- 402 Characterization of the SHARC Camera**
Stephan Kellner
10 July 2006
- 401 AOWG Recommendations for Keck FY07 AO Priorities**
Michael Liu, Claire Max
14 April 2006

Keck AO Notes List

May 31, 2010

- 400 The Next Generation AO Proposal**
20 June 2006
- 399 The Next Generation AO Proposal Executive Summary**
20 June 2006
- 398 Results of NGWFC RTC Preliminary Acceptance Review**
Paul Stomski, Erik Johansson
14 June 2006
- 397 Angular Anisoplanatism in Laser Guide Star Adaptive Optics**
Marcos van Dam, Richard Sasiela, Antonin Bouchez, David LeMignant, Randy Campbell, Jason Chin, Scott Hartman, Erik Johansson, Robert Lafon, Paul Stomski, Douglas Summers and Peter Wizinowich
May 2006
- 396 The W. M. Keck Observatory Laser Guide Star Adaptive Optics System: Performance Characterization**
Marcos van Dam, Antonin Bouchez, David LeMignant, Erik Johansson, Peter Wizinowich, Randy Campbell, Jason Chin, Scott Hartman, Robert Lafon, Paul Stomski, Jr., and Douglas Summers
14 February 2006
- 395 The W. M. Keck Observatory Laser Guide Star Adaptive Optics System: Overview**
Peter Wizinowich, David LeMignant, Antonin Bouchez, Randy Campbell, Jason Chin, Adam Contos, Marcos van Dam, Scott Hartman, Erik Johansson, Robert Lafon, Hilton Lewis, Paul Stomski, Douglas Summers, Curtis Brown, Pamela Danforth, Claire Max, and Deanna Pennington
06 February 2006
- 394 Vibrations and Turbulence on the AO Bench**
Marcos van Dam
22 April 2006
- 393 Final NGWFC RTC Requirements Database Listing**
Paul Stomski
11 April 2006
- 392 AO Development Status and FY07 Plans**
Peter Wizinowich
4 April 2006
- 391 Image Sharpening as a Function of Field Position and Filter**
Marcos van Dam
21 March 2006
- 390 Implementation of Pixel Weighted Centroiding for the NGWFC**
Marcos van Dam
9 March 2006
- 389 Present and Near-Future for AO Operation Tools**
David LeMignant, Randy Campbell, Al Conrad, Marcos van Dam and Erik Johansson
21 April 2006

Keck AO Notes List

May 31, 2010

- 388 **Request for Change to the NGWFC RTC: Post DDR Updates**
Paul Stomski
7 March 2006
- 387 **Characterization of the CCD-39**
Marcos van Dam and Erik Johansson
2 March 2006
- 386 **Calibrating the Image Sharpening Algorithm**
Marcos van Dam
22 February 2006
- 385 **Feasibility of LGS AO Observations in the Vicinity of Jupiter**
Stephan Kellner and Marcos van Dam
20 February 2006
- 384 **Mauna Kea Laser Guide Star Technical Working Group – Presentation and Summary of 11/22/05 Meeting**
22 November 2006
- 383 **Request for Change to the NGWFC RTC: Post PDR Updates**
R. Biasi (Microgate Engineering)
4 November 2005
- 382 **NGWFW DDR Committee Pre-Review Written Questions and Answers**
P. Stomski
25 January 2006
- 381 **Development Team's Response to the NGWFC DDR Committee Report**
P. Stomski, E. Johansson, J. Chin, R. Sumner, M. van Dam, Peter Wizinowich
6 February 2006
- 380 **NGWFC DDR Committee Report**
P. Stomski
7 February 2006
- 379 **Laser Light Contamination in the LBWFS**
M. van Dam
8 December 2005
- 378 **LGS AO Acquisition Procedure**
D. Le Mignant
2 December 2005
- 377 **NGWFC Optical Test Fixture Design**
R. Sumner
2 December 2005
- 376 **NGWFC NFS Installation and Alignment Strategy**
P. Stomski, E. Johansson,
2 December 2005
- 375 **CCD-39 Reducer Optics Design**
P. Stomski, E. Johansson, R. Sumner
1 December 2005

Keck AO Notes List
May 31, 2010

- 374 **NGWFC RTC Preliminary Acceptance Test Plan**
P. Stomski, E. Johansson
1 December 2005
- 373 **NGWFC DDR Compliance Matrix**
E. Johansson, P. Stomski
1 December 2005
- 372 **NGWFC Schedule Options as of DDR**
P. Stomski, E. Johansson
23 November 2005
- 371 **NGWFC Detailed Design Report**
P. Stomski
21 November 2005
- 370 **Estimating the Centroid Gain for the NGWFC**
M. van Dam
15 November 2005
- 369 **Science Prioritization of NGWFC Features**
P. Stomski, E. Johansson
09 November 2005
- 368 **Centroid, Subaperture and Actuator Conventions**
M. van Dam
18 April 2005
- 367 **AO Development Status and FY06 Plans**
P. Wizinowich
November 2005
- 366 **Development Team Response to the NGWFC Preliminary Design Review Committee Report**
P. Stomski, E. Johansson, M. van Dam, P. Wizinowich, Roger Sumner, R. Biasi
27 October 2005
- 365 **Review Committee Report**
R. Dekany, S. Acton, A. Conrad, B. Macintosh, C. Neman, D. Palmer
20 September 2005
- 364 **Implementation and Computational Cost of the Correlation Algorithm**
M. van Dam and E. Johansson
18 October 2005
- 363 **FAA Notification of Our Proposal to Conduct Outdoor Laser Operations**
D. Le Mignant, C. Melcher, P. Stomski
21 October 2005
- 362 **Summary of Keck Observatory Outdoor Laser Operations**
D. Le Mignant, C. Melcher
21 October 2005
- 361 **Procedures for Laser Safety Observing – Addendum to KAON 360**
D. Le Mignant
31 October 2005

Keck AO Notes List
May 31, 2010

- 360 Use of Aircraft Spotters for Keck II Laser Safety**
D. Le Mignant, P. Stomski
21 October 2005
- 359 Wavefront Sensor Observing Modes**
M. van Dam
10 October 2005
- 358 Reading the Subapertures Behind the Central Obscuration**
M. van Dam
04 October 2005
- 357 Simulations of Denominator-Free Centroiding**
M. van Dam
04 October 2005
- 356 Wavefront Reconstruction for the NGWFC**
M. van Dam
21 September 2005
- 355 Characterization of the Tip-Tilt Mirror**
M. van Dam
19 September 2005
- 354 Request for Change, NGWFC RTC: Post PDR Updates**
P. Stomski
(document in process)
- 353 State of the AO OBS**
S. Hartman
August 2005
- 352 NGWFC Compliance Matrix**
E. Johansson, P. Stomski
24 August 2005
- 351 Analysis of the LL64 CCD**
M. van Dam
April 2003
- 350 NGWFC Interface Control Document, Version 1.1**
E. Johansson, J. Chin, R. Sumner
20 August 2005
- 349 NGWFC Preliminary Risk Analysis and Mitigation Plan**
P. Stomski, E. Johansson
20 August 2005
- 348 NGWFC Operations Tools**
M. van Dam
23 June 2005
- 347 NGWFC Work Breakdown Structure**
P. Stomski, E. Johansson
10 August 2005

Keck AO Notes List
May 31, 2010

- 346 NGWFC Detailed Design Proposal**
P. Stomski
22 July 2005
- 345 NGWFC Preliminary Design Report**
P. Stomski
22 July 2005
- 344 NGWFC Integration and Test Plan**
P. Stomski
22 July 2005
- 343 The NGWFC RTC Proposal Associated With PO #24196**
R. Biasi
16 May 2005
- 342 Adopted NGWFC Change Proposal to Integrate DTT/UTT Into the RTC**
R. Biasi
08 June 2005
- 341 Keck Precision AO (KPAO)**
O. Lai, C. Neyman & P. Wizinowich
29 July 2005
- 340 Degradation in Tip-Tilt Performance Off-Axis**
M. van Dam
07 July 2005
- 339 LGS AO Status Update**
P. Qizinowich, A. Bouchez, R. Campbell, A. Conrad, J. Chin, L. Chock, S. Hartman, E. Johansson, R. Lafon, J. Lyke, C. Melcher, D. Le Mignant, R. Mouser, P. Stomski, D. Summers, M. van Dam, C. Wilburn
08 July 2005
- 338 Gemini/Keck Start Wars: Gemini Perspective**
F. Rigaut
29 June 2005
- 337 Gemini-Keck Start Wars: Keck Perspective**
D. Le Mignant, M. van Dam, P. Wizinowich and R. Lafon
29 June 2005
- 336 Evaluation of the Microgate Change Proposal to Integrate DTT/UTT Into the RTC**
P. Stomski, E. Johansson
20 June 2005
- 335 NGWFC Requirements Management Plan**
P. Stomski
07 June 2005
- 334 NGWFC Preliminary Design Proposal**
P. Stomski
07 June 2005

Keck AO Notes List

May 31, 2010

- 333 **NGWFC RTC – Subcontract Decision Discussion**
P. Stomski, E. Johansson
22 April 2005
- 332 **Low Bandwidth Wavefront Sensor Sensitivity**
A. Bouchez, D. Le Mignant
18 January 2004
- 331 **Draft Science Cases for KPAO**
P. Wizinowich
26 May 2005
- 330 **Request for change to the NGWFC RTC: Integrating DTT and UTT (draft)**
P. Stomski
27 May 2005
- 329 **NGWFC RTC Tip-Tilt Requirements (draft)**
P. Stomski
20 May 2005
- 328 **NGWFC RTC Purchase Order Attachment**
P. Stomski
19 May 2005 (*Keck Share* – Word & PDF)
- 327 **NGWFC RTC Engineering Change Process**
P. Stomski, S. Adkins
10 May 2005 (*Keck Share* – Word & PDF)
- 326 **Background Light on the STRAP Tip-Tilt Sensor**
A. Bouchez
10 May 2005 (*Keck Share* – Word & PDF)
- 325 **Deciding Between the Two Micrograte Architectures for the NGWFC RTC**
P. Stomski, E. Johansson
29 April 2005 (*Keck Share* – Word & PDF)
- 324 **NGWFC Project Team Contact Information**
P. Stomski
2 May 2005 (*Keck Share* – Word & PDF)
- 323
- 322 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, R. Campbell, A. Conrad, J. Chin, L. Chock, S. Hartman, E. Johansson,
R. Lafon, C. Melcher, D. Le Mignant, R. Mouser, P. Stomski, D. Summers, M. van Dam
6 May 2005 (*Keck Share* – Word & PDF)
- 321 **KPAO Progress Report for February 2005-March 2005**
C. Neyman
8 April 2005 (*Keck Share* – Word & PDF)

Keck AO Notes List

May 31, 2010

- 320 Laser Guide Star Implementation on Keck I**
P. Wizinowich
2 May 2005 (*Keck Share* – Word & PDF)
- 319 AO Coordinate Systems**
P. Stomski
15 April 2005 (*Keck Share* – PDF)
- 318 Laser Guide Star AO Weather Cancellation Policy**
A. Bouchez, D. Le Mignant
11 April 2005 (*Keck Share* – Word & PDF)
- 317 DCS and AO Configurations for the AO-fed Instrumentation**
D. Le Mignant
13 April 2005 (*Keck Share* – Word & PDF)
- 316 LGS AO Engineering Science Project Status**
A. Bouchez
5 May 2005 (*Keck Share* - Word & PDF)
- 315 Summary of External Interfaces in the Current WFC and Implication for the NGWFC Design (DRAFT)**
E. Johansson
11 March 2005
- 314 Measured Field Curvature at the Tip-Tilt Sensor Stage Focal Plane**
A. Bouchez, David Le Mignant
05 May 2005 (*Keck Share* - Word & PDF)
- 313 LGS AO Status Update**
P. Wizinowich, A. Bouchez, R. Campbell, J. Chin, L. Chock, S. Hartman, E. Johansson, R. Lafon, C. Melcher, D. Le Mignant, R. Mouser, P. Stomski, D. Summers, M. van Dam
8 March 2005 (*Keck Share* - Word & PDF)
- 312 Telemetry Requirements**
M. van Dam
2 February 2003 (*Keck Share* – PDF)
- 311 NGWFC RTC Requirements**
P. Stomski, Erik Johansson, Peter Wizinowich, Sean Adkins
11 March 2005 (*Keck Share* - PDF)
- 310 NGWFC Real Time Controller Vendor Statement of Work, Version 1.0**
P. Stomski, Erik Johansson, Peter Wizinowich, Sean Adkins
11 March 2005 (*Keck Share* – PDF)
- 309 Field Curvature at the AO Focal Plane**
P. Wizinowich
20 January 2005 (*Keck Share* – Word & PDF)
- 308 Request for Proposals for the Real-Time Controller for the Next Generation Wavefront Controller, Version 1.1**
P. Stomski
21 March 2005 (*Keck Share* – Word & PDF)
- 307 Compensating for Differential Atmospheric Refraction with the Tip/Tilt Sensor Stage**
P. Stomski; 23 February 2005 (*Keck Share* – PDF)

Keck AO Notes List

May 31, 2010

- 306 **KPAO Progress Report for October 2004-January 2005**
C. Neyman
12 February 2005 (*Keck Share* – Word & PDF)
- 305 **Keck Precision AO (KPAO)**
C. Neyman & P. Wizinowich for KPAO Team
26 January 2005
- 304 **NGWFC Real-Time Controller Overview**
E. Johansson
11 February 2005 (*Keck Share* – Word & PDF)
- 303 **Atmospheric Parameters for Mauna Kea [KPAO]**
C. Neyman
3 December 2004 (*Keck Share* – Word & PDF)
- 302 **Thirty LGS AO Science Nights in 05B (+Excel Supporting Document)**
P. Wizinowich for Keck AO Team
8 February 2005 (*Keck Share* – Word)
- 301 **The NGWFC Architecture Options**
P. Stomski, E. Johansson, M. vanDam, P. Wizinowich
2 February 2004 (*Keck Share* – Word & PDF)
- 300 **LGS AO Readiness for 05B**
Keck LGSAO Team
4 February 2005 (*Keck Share* – Word & PDF)
- 299 **LGS AO Dithering Troubleshooting Analysis**
D. Summers
4 February 2005 (*Keck Share* – Word & PDF)
- 298 **Notes on Down Tip-Tilt Coordinate System and 2-Axis to 3-Actuator Conversion**
E. Johansson
3 February 2005 (*Keck Share* – Word & PDF)
- 297 **New Procedures for Laser Spotters**
A. Bouchez; R. Lafon; D. Le Mignant; D. Summers
25 January 2005 (*Keck Share* – Word & PDF)
- 296 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, R. Campbell, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant,
P. Stomski, D. Summers, M. van Dam
2 February 2005 (*Keck Share* – Word & PDF)
- 295 **NGWFC Monthly Report for December 2004**
P. Stomski, E. Johansson
5 January 2005 (*Keck Share* – Word)
- 294 **Wavefront Sensing Vignetting on K2 AO**
P. Wizinowich
14 December 2004 (*Keck Share* – Word & PDF)

Keck AO Notes List

May 31, 2010

- 293 **Development Team Response to NGWFC System Design Review Committee Report**
E. Johansson, P. Stomski, M. van Dam, P. Wizinowich
9 December 2004 (*Keck Share* – Word & PDF)
- 292 **Next-Generation Wave Front Controller System Design Review Report, 12/1/04**
S. Adkins, A. Conrad, D. Le Mignant
1 December 2004 (*Keck Share* – PDF)
- 291 **Proposal for an LGS AO Operations Team**
D. Le Mignant, R. Campbell, A. Bouchez
18 November 2004 (*Keck Share* – Word & PDF)
- 290 **System Design Review Presentation**
E. Johansson, P. Stomski, M. van Dam, P. Wizinowich
17 November 2004 (*Keck Share* – PDF)
- 289 **NGWFC System Design Manual**
E. Johansson, P. Stomski, M. van Dam
16 November 2004 (*Keck Share* – PDF)
- 288 **NGWFC System Design Report**
P. Stomski
15 November 2004 (*Keck Share* – PDF)
- 287 **NGWFC System Engineering Management Plan**
P. Stomski
3 November 2004 (*Keck Share* – Word)
- 286 **NGWFC System Requirements Document**
E. Johansson, P. Stomski, M. van Dam
10 November 2004 (*Keck Share* – PDF)
- 285 **JPL Task Plan No. 71-9042**
16 August 2004 (*Keck Share* – PDF)
- 284 **Design of the Plate Scales for the NGWFC**
M. van Dam
September 2004 (*Keck Share* – Word)
- 283 **Interim Report on the Next-Generation Wave Front Controller Project**
P. Stomski, P. Wizinowich
30 June 2004 (*Keck Share* – Word)
- 282 **Effect of Using 19 by 20 Subapertures**
M. van Dam
29 October 2004 (*Keck Share* – Word)
- 281 **CARA/JPL Collaboration Plan**
P. Stomski
15 October 2004 (*Keck Share* – Word)
- 280 **Charge Diffusion in the CCD-39**
M. van Dam
4 November 2004 (*Keck Share* – Word)

Keck AO Notes List

May 31, 2010

- 279 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johnasson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
5 November 2004 (*Keck Share* – Word & PDF)
- 278 **Laser Guide Star Adaptive Optics Characterization Plan**
A. Bouchez, M. van Dam
2 December 2004 (*Keck Share* – Word & PDF)
- 277 **Performance of the Keck Observatory adaptive-optics system**
M. van Dam, D. Le Mignant, B. Macintosh
Published in APPLIED OPTICS, Vol. 43, No. 29/ 10 October 2004 (*Keck Share* –PDF)
- 276 **Next Generation Wavefront Controller: Opto-Mechanical Design**
P. Wizinowich
5 November 2004 (*Keck Share* – Word)
- 275 **Requirements Discussion for Using the TSS stage in tracking mode to compensate for DAR**
P. Stomski, S. Hartman, R. Campbell
2 November 2004 (*Keck Share* – Word & PDF)
- 274 **Summary of Keck Observatory Outdoor Laser Operations November 2003-October 2004**
P. Stomski
29 October 2004 (*Keck Share* – Word & PDF)
- 273 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
6 October 2004 (*Keck Share* – Word & PDF)
- 272 **Engineering Test Results: Calibration of the Effective Wavelength for the LGS-AO Tip-Tilt Sensor, STRAP**
R. Campbell, P. Stomski
14 September 2004 (*Keck Share* – Word & PDF)
- 271 **AOWG Strategic Planning: How has the Landscape changed?**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johnasson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
14 September 2004 (*Keck Share* – Word & PDF)
- 270 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
1 September 2004 (*Keck Share* – Word & PDF)
- 269 **Summary of Laser Propagation Restrictions and Procedures**
A. Bouchez
12 August 2004 (*Keck Share* – Word & PDF)
- 268 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
3 August 2004 (*Keck Share* – Word & PDF)
- 267 **Status and Definition of LGS AO Milestones -- DRAFT**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam; 28 July 2004

Keck AO Notes List

May 31, 2010

- 266 **Interim Report on the Next Generation Wavefront Controller Project**
P. J. Stomski, Jr., P. Wizinowich
21 July 2004 (*Keck Share* – PDF)
- 265 **Keck Laser Guide Star Adaptive Optics: Science Verification Results**
A. Bouchez, D. Le Mignant, M. van Dam, J. Chin, S. Hartman, E. Johansson, R. Lafon, P. Stomski, D. Summers, P. Wizinowich
Proceedings of SPIE Astronomical Telescopes and Instrumentation Conference, 21-25 June 2004, Glasgow, Scotland.
June 2004 (*Keck Share* – PDF)
- 264 **Focus and Pointing Adjustments Necessary for Laser Guide Star Adaptive Optics at the W. M. Keck Observatory**
D. Summers, A. Bouchez, J. Chin, A. Contos, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, M. van Dam, P. Wizinowich
Proceedings of SPIE Astronomical Telescopes and Instrumentation Conference, 21-25 June 2004, Glasgow, Scotland.
June 2004 (*Keck Share* – PDF)
- 263 **Adaptive Optics Developments at Keck Observatory**
P. Wizinowich, D. Le Mignant, A. Bouchez, J. Chin, a. Contos, S. Hartman, E. Johansson, R. Lafon, C. Neyman, P. Stomski, D. Summers, M. van Dam
Proceedings of SPIE Astronomical Telescopes and Instrumentation Conference, 21-25 June 2004, Glasgow, Scotland.
June 2004 (*Keck Share* – PDF)
- 262 **TSS Accuracy Test, Daytime Testing Preliminary Results**
R. D. Campbell
1 June 2004 (*Keck Share* – Word & PDF)
- 261 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
17 June 2004 (*Keck Share* – Word & PDF)
- 260 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
13 May 2004 (*Keck Share* – Word)
- 259 **Replacement of the Output Window of Amplifier Dye Cells**
R. Lafon
5 May 2004 (*Keck Share* – Word & PDF)
- 258 **Requirements and Guidelines for the AO Handover**
D. Le Mignant, A. Bouchez, R. Campbell, E. Chock, R. Goodrich
12 April 2004 (*Keck Share* – Word & PDF)
- 257
A. Bouchez
- 256 **Software Requirements Documents for the Next-Generation Wavefront Controller**
P. Stomski

Keck AO Notes List

May 31, 2010

- 255 **How to See a Poked Actuator on the DM with NIRC2 in Pupil Imaging Mode: The Coronagraphic Trick!**
J. Woillez
8 April 2004 (*Keck Share* – Word & PDF)
- 254 **Image Rotator & NIRC2 Alignment**
J. Woillez
13 April 2004 (*Keck Share* – Word & PDF)
- 253 **Requirements for the Pupil Alignment on NIRC2**
D. Le Mignant
9 April 2004 (*Keck Share* – Word & PDF)
- 252 **Off-axis AO Operation for the Interferometer**
P. Wizinowich
24 March 2004 (*Keck Share* – Word & PDF)
- 251 **Image Rotator Alignment: Zemax Model**
P. Wizinowich
24 February 2004 (*Keck Share* – Word)
- 250 **LGS AO Status Update**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
6 February 2004 (*Keck Share* – Word)
- 249 **LBWFS Alignment Plan (with some of the pictures)**
C. Neyman
30 January 2004 (*Keck Share* – Word & PDF)
- 248 **High Angular Resolution Astronomy at W. M. Keck Observatory, Presentation to Dr. Maria Pellegrini on 11/6/03**
AO Team
6 November 2003 (*Keck Share* – Powerpoint)
- 247 **Extending the Keck Observatory's World Leadership in Adaptive Optics: A New Generation of Wavefront Controller Systems, A Phase II Proposal to the W. M. Keck Foundation**
WMKO Staff
10 September 2003 (*Keck Share* – Word & PDF)
- 246 **Low-Bandwidth Wavefront Sensor Optical Alignment**
A. Bouchez, P. Wizinowich, E. Johansson
3 December 2003 (*Keck Share* – Word & PDF)
- 245 **Low-Bandwidth Wavefront Sensor (LBWFS) Technical Description & Requirements (DRAFT)**
A. Contos, P. Wizinowich, D. Le Mignant
1 November 2002 (*Keck Share* – Word & PDF)
- 244 **LGS AO: Current Status & Priorities**
P. Wizinowich, A. Bouchez, J. Chin, S. Hartman, E. Johansson, R. Lafon, D. Le Mignant, P. Stomski, D. Summers, M. van Dam
30 December 2003 (*Keck Share* – Word & PDF)
- 243 **Keck Observatory Outdoor Laser Operations Dec 2002 through Oct 2003**
P. Stomski
30 October 2003 (*Keck Share* – PDF)

Keck AO Notes List

May 31, 2010

- 242 **Adaptive Optics for Astronomy**
P. Wizinowich and A. Contos
9 October 2003 (*Keck Share* – PowerPoint)
- 241 **Characterization of adaptive optics at Keck Observatory**
M. van Dam and B. Macintosh
August 2003 (*Keck Share* – PDF)
- 240 **Keck AO Acronyms**
A. Contos
13 Dec 2002 (*Keck Share* – Word & PDF)
- 239 **Atmospheric Turbulence Characterization with the Keck Adaptive Optics Systems. I. Open-loop Data**
M. Schoeck, D. Le Mignant, G. Chanan, P. Wizinowich, M. van Dam
1 July 2003 (*Keck Share* – PDF) (*Applied Optics*, Vol. 42, No. 19, pp. 3705-3720)
- 238 **LBWFS Software Code Review**
S. Hartman
25 June 2003 (*Keck Share* – PowerPoint)
- 237 **Keck Precision Adaptive Optics: Technical Requirements and Constraints**
P. Wizinowich, R. Dekany, M. Troy, G. Chanan, C. Neyman
14 July 2003 (*Keck Share* – Word & PDF)
- 236 **Keck AO: Status & Plans**
P. Wizinowich for the Keck AO Team
19 May 2003 (*Keck Share* – PowerPoint)
- 235 **Definition of the First Corrected LGS AO Images on NIRC2**
D. Le Mignant and P. Wizinowich
13 May 2003 (observing scheme updated 9/3/03) (*Keck Share* – Word & PDF)
- 234 **Keck II Adaptive Optics Wavefront Controller Upgrade Planning Meeting (and Notes)**
P. Stomski, E. Johansson
18 April 2003 (*Keck Share* – PowerPoint, Notes in Word)
- 233 **Keck I Adaptive Optics Wavefront Controller Review**
E. Johansson, P. Stomski
16 April 2003 (*Keck Share* – PowerPoint)
- 232 **Steering Mirrors with a Laser Guide Star**
Kahina-Sara Abdeli
5 June – 23 Aug 2001 (*KeckShare* - PDF)
- 231 **Keck Adaptive Optics Status**
P. Wizinowich
19 March 2003 (*KeckShare* – Word & PDF)
- 230 **Optical Design for STRAP**
P. Wizinowich, A. Contos
23 March 2003 (*KeckShare* – Word & PDF)
- 229 **Keck Adaptive Optics Status Report**
P. Wizinowich
20 Jan 2003 (*KeckShare* – Word & PDF)

Keck AO Notes List

May 31, 2010

- 228 **Proposed Adaptive Optics Projects for FY '04 DRAFT**
P. Wizinowich
17 March 2003
- 227 **Keck Adaptive Optics Status Report**
P. Wizinowich, D. Le Mignant
5 Nov 2002 (*KeckShare* – Word & PDF)
- 226 **Investigation into the size of the Shack-Hartmann spots**
M. van Dam, D. Le Mignant
10 Oct 2003 (*KeckShare* – Word & PDF)
- 225 **AO Characterization Plan**
D. Le Mignant
28 Sep 2002 (*KeckShare* – Word & PDF)
- 224 **Adaptive optics developments at Keck Observatory**
P. Wizinowich, D. Le Mignant, P. Stomski, D. S. Acton, A. Contos, C. Neyman
August 2002 (*KeckShare* – PDF)
- 223 **Io, the movie**
D. Le Mignant, F. Marchis, S. Kwok, P. Amico, R. Campbell, R. Chaffee, A. Conrad, A. Contos, R. Goodrich, G. Hill, D. Sprayberry, P. J. Stomski, P. Wizinowich, I. de Pater
14 Aug 2002 (*KeckShare* – PDF)
- 222 **Implementation of a Laser Traffic Control System supporting Laser Guide Star Adaptive Optics on Mauna
Kea**
D. Summers, B. Gregory, P. Stomski, A. Brighton, R. Wainscoat, P. Wizinowich, W. Gaessler, J. Seabag, C. Boyer, T. Vermeulen, T. Denault, D. Simons, H. Takami, C. Veillet
7 Aug 2002 (*KeckShare* – PDF)
- 221 **Compensating for Differential Atmospheric Refraction in the W. M. Keck Observatory Adaptive Optics System**
P. Stomski, D. Le Mignant, P. Wizinowich, R. Campbell, R. Goodrich
7 Aug 2002 (*KeckShare* – PDF)
- 220 **Laser guide star adaptive optics at the Keck Observatory**
A. Contos, P. Wizinowich, S. Hartman, D. Le Mignant, C. Neyman, P. Stomski, D. Summers
7 Aug 2002 (*KeckShare* – Word & PDF)
- 219 **Compensating for pupil rotation in the W.M. Keck Observatory adaptive optics system**
P. Stomski, J.C. Shelton
July 2000 (*KeckShare* – PDF)
- 218 **Keck AO Status and Discussion of Future Directions**
P. Wizinowich, D. Le Mignant
3 June 2002 (*KeckShare* – Word & PDF)
- 217 **bxy9 Dither Pattern Analysis**
R. Goodrich
3 April 2002 (*KeckShare* – Word)
- 216 **Executive Summary for Tasks for LGS AO Support Tools, DRAFT**
A. Contos
12 Mar 2002 (*KeckShare* – PDF)

Keck AO Notes List

May 31, 2010

- 215 **Recovery from a Tip/Tilt Mirror Failure**
P. Wizinowich
6 Nov 2001 (*KeckShare* – Word)
- 214 **FAA Notification of Our Proposal to Conduct Outdoor Laser Operations**
P. Stomski
8 Nov 2001 (*KeckShare* – PDF)
- 213 **Use of Aircraft Spotters for K2 AO Laser Safety**
P. Stomski
9 Nov 2001 (*KeckShare* – PDF)
- 212 **Status of the optics bench on Keck I and II**
D.S. Acton
12 Jun 2001 (*KeckShare* – Word)
- 211 **K2/K1 Tip/tilt wiring discrepancies**
D.S. Acton
5 Jun 2001 (*KeckShare* – PDF)
- 210 **L3-L4 Flexure Measurements for the AO Laser Guide Star Subsystem**
D.S. Acton
11 May 2001 (*KeckShare* – PDF)
- 209 **Lessons Learned from Adaptive Optics on Mauna Kea**
The Mauna Kea Kamaaina Adaptive Optics Group
7 May 2001 (*KeckShare* – Word & PowerPoint files)
- 208 **Keck I Adaptive Optics Power Up/Down Procedure**
P. Stomski
15 August 2001 (*KeckShare* – PDF)
- 207 **Keck II Adaptive Optics Power Up/Down Procedure**
P. Stomski
2 May 2001 (*KeckShare* – PDF)
- 206 **How to put the Field Steering Mirrors in the center of their dynamic range**
D.S. Acton
13 Dec 2000 (*KeckShare* – Word)
- 205 **Review of Laser Relay Optics**
P. Wizinowich
26 Oct 2000 (*KeckShare* – Word)
- 204 **Transfer Function measurements for the K1 AO system**
S. Acton
20 Oct 2000 (*KeckShare* – PDF)
- 203 **What is the future for Keck Adaptive Optics and how do we get there?**
P. Wizinowich
26 Jul 2000 (*KeckShare* – Word)
- 202 **Analytical Field Steering Mirror Equations**
I. Lynn
11 Aug 2000 (*KeckShare* – Word)

Keck AO Notes List

May 31, 2010

- 201 **NIRSPEC/AO Reflective Reimager**
17 Jul 2000
- 200 **AO/NIRSPEC Observing: Notes from the First Engineering Night**
P. Wizinowich, T. Bida, D.S. Acton
24 May 2000 (*KeckShare* – Word)
- 199 **Summary of WFS/FDC Vibration Tests**
E. Johansson, G. Chanan
23 May 2000 (*KeckShare* – Word)
- 198 **Calculating R_0**
P. Wizinowich, D.S. Acton, J. Gathright, W. Lupton
18 May 2000 (*KeckShare* – Word)
- 197 **MANO, The Modal Analysis and Noise Optimization program for the W.M. Keck Observatory Adaptive Optics System**
O. Lai, P. Stomski, E. Gendron
Mar 2000 (*KeckShare* – PDF)
Proceedings of SPIE's International Symposium on Astronomical Telescopes & Instrumentation 2000, 27-31 March 2000, Munich, Germany
- 196 **Initial performance of the Keck AO wavefront controller system**
E. Johansson et al.
Mar 2000 (*KeckShare* – PDF)
Proceedings of SPIE's International Symposium on Astronomical Telescopes & Instrumentation 2000, 27-31 March 2000, Munich, Germany.
- 195 **Lessons learned in the design, construction, and implementation of the W.M. Keck Observatory AO system**
D.S. Acton, P. Wizinowich, M. DiVittorio, T. Gregory
Mar 2000 (*KeckShare* – PDF)
Proceedings of SPIE's International Symposium on Astronomical Telescopes & Instrumentation 2000, 27-31 March 2000, Munich, Germany.
- 194 **Performance of the W.M. Keck Observatory Natural Guide Star Adaptive Optic Facility: the first year at the telescope**
P. Wizinowich, D.S. Acton, O.Lai, J. Gathright, W. Lupton, P. Stomski
Mar 2000 (*KeckShare* – PDF)
Proceedings of SPIE's International Symposium on Astronomical Telescopes & Instrumentation 2000, 27-31 March 2000, Munich, Germany.
- 193 **Vibration Meeting Results (17-18 Nov meeting)**
P. Wizinowich
4 Jan 2000 (*KeckShare* – Word)
- 192 **Vibration Meeting Presentation Materials (LLNL) (17-18 Nov meeting)**
E. Johansson
17 Nov 1999 (*KeckShare* – PowerPoint)
- 191 **Vibration Meeting Presentation Materials (CARA)**
P. Wizinowich
4 Jan 2000 (*KeckShare* – PowerPoint)

Keck AO Notes List

May 31, 2010

- 190 **NIRSPEC AO Reimager**
Peter Wizinowich
22 Nov 99 (*KeckShare – Word*)
- 189 [AO for OAs](#)
William Lupton
24 Sep 1999
- 188 **Acceptance Review Committee Report, Keck II NGS AO Facility**
7 Sep 1999 (*KeckShare – Word*)
- 187 **Keck II NGS AO Facility Acceptance Review Presentation**
30 Aug 1999 (*KeckShare – PowerPoint*)
- 186 **Revised Plan for Laser Subsystem Completion**
C. Shelton, D. Pennington
16 Sep 1999
- 185 **Adaptive Optics Task List**
P. Wizinowich
26 Aug 99 (*KeckShare – Word*)
- 184 **Keck Adaptive Optics Facility Hardware Manual #1, Nasmyth Platform (DRAFT)**
16 Aug 99 (*KeckShare – Word*)
- 183 **Report of the Review Committee; Keck II Adaptive Optics Facility ; NGS AO Readiness Review**
Review Committee, R.Q. Fugate, chair
22 Jan 98, revised 2 Jan 99 (*KeckShare – Word & PDF*)
- 182 **Characterization of the lenslet arrays. (DRAFT)**
D. Scott Acton
13 May 99 (rev. 9/2/99) (*KeckShare --PDF*)
- 181 **Tip / tilt performance measurements**
D. Scott Acton
13 May 99 (*KeckShare --PDF*)
- 180 **Yag Timing System Programmer's Guide**
- 179 **Computer Control System and Software**
- 178 **Wavefront Controller Subsystem**
H. Jones
05 May 99
- 177 **DM Controller Interface Description**
Erik Johansson
19 Mar 99
- 176 **Keck II Adaptive Optics Facility NGS AO Readiness Review**
19 Jan 99 (*KeckShare --PDF*)

Keck AO Notes List

May 31, 2010

- 175 **Servo Control of the Movable Stages using PMAC Controllers for the W.M. Keck Telescope Adaptive Optics System**
Kevin Ho, Paul Stomski, Mark Sirota, KevinTsubota
20 Mar 98
- 174 **First Sky Tests of KCAM with the AO Science Path**
Peter Wizinowich
11 Jan 99 (*Keck Share – Word*)
- 173 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
13 Nov 98 (*KeckShare – PDF & Word*)
- 172 **WFC System Upgrades**
CARA & LLNL
11 Nov 98
- 171 **Phased Plan for Laser Subsystem Completion, Integration and Test**
Peter Wizinowich, Chris Shelton
14 Dec 98 (*KeckShare – Word*)
- 170 **Center of Rotation of the El-bearings on Keck II**
D. Scott Acton, Michael DiVittorio
21 Oct 98 (*KeckShare – PDF*)
- 169 **Mauna Kea Laser Guide Star Technical Working Group Report to the Mauna Kea Users**
Peter Wizinowich
24 Sep 98
- 168 **Calculating AO Control Matrices**
Paul Stomski
19 Oct 98
- 167 **AO WFC File Naming and Format Conventions**
Paul Stomski
19 Oct 98
- 166 **Adaptive Optics Science Team Workshop**
Peter Wizinowich
06 Oct 98 (*KeckShare – PDF*)
- 165 **Issues related to the location of the Keck I Adaptive Optics Bench.**
Peter Wizinowich
31Aug 98 (*KeckShare – Word*)
- 164 **Modal control: a primer.**
Olivier Lai
{16Jul98}
- 163 **Wavefront controller subsystem pre-ship review.**
Peter Wizinowich, D. Scott Acton, Paul Stomski
07Jul98

Keck AO Notes List

May 31, 2010

- 162 Design and performance of the tip-tilt subsystem for the Keck II telescope adaptive optics system.**
K. Avicola, J. Watson, B. Beeman, T. Kuklo, and J. Taylor
20Mar98
Proceedings of SPIE Astronomical Telescopes & Instrumentation Conference, 20-28 March 1998, Kona, Hawaii.
(*KeckShare – PDF*)
- 161 The wavefront control system for the Keck Telescope**
J.M. Brase, J. An, K. Avicola, et.al.
20Mar98
Proceedings of SPIE Astronomical Telescopes & Instrumentation Conference, 20- 28 March 1998, Kona, Hawaii.
(*KeckShare – Word*)
- 160 WFC Keywords** (*KeckShare – PDF*)
- 159 AO Supervisory Control Subsystem Review**
William Lupton
29May98
- 158 OBS FSM Coordinated Moves**
Kevin Tsubota, Paul Stomski
07 May 98
- 157 OBS Keyword Description**
Kevin Tsubota, Paul Stomski
07 May 98
- 156 Engineering Science with Keck AO**
Olivier Lai
05 May 98
- 155 Status of the W.M. Keck Observatory Adaptive Optics Facility**
Peter Wizinowich, D. Scott Acton, Thomas Gregory, Paul Stomski, Jong An, Ken Avicola, Jim Brase, Herb Friedman, Don Gavel, Claire Max
20 Mar 98
Proceedings of SPIE Astronomical Telescopes & Instrumentation Conference, 20- 28 March 1998, Kona, Hawaii.
- 154 Laboratory Calibration of the W.M. Keck Observatory Adaptive Optics Facility**
D. Scott Acton, Peter Wizinowich, Paul Stomski, Chris Shelton, Olivier Lai, J. Brase
20 Mar 98
Proceedings of SPIE Astronomical Telescopes & Instrumentation Conference, 20- 28 March 1998, Kona, Hawaii.
- 153 Coordination and Use of Laser Beacons for Adaptive Optics on Mauna Kea**
Peter Wizinowich, Doug Simons, Hideki Takame, Christian Veillet, and Richard Wainscoat.
20 Mar 98 (*KeckShare – Word*)
Proceedings of SPIE Astronomical Telescopes & Instrumentation Conference, 20- 28 March 1998, Kona, Hawaii.
- 152 Optics Bench Subsystem Review**
Peter Wizinowich, Paul Stomski, D. Scott Acton
09 Apr 98 (*KeckShare – PDF & Word*)
- 151 Comments on Program Status Report, KAON 150**
Claire Max
13 Mar 98 (*KeckShare – Word*)

Keck AO Notes List

May 31, 2010

- 150 Keck Adaptive Optics Program Status Report**
Peter Wizinowich
10 Mar 98 (*KeckShare – Word*)
- 149 Implementation of KCAM with the AO Facility**
Peter Wizinowich, James Larkin
16 Jan 97 (*KeckShare – PDF*)
- 148 Laser Subsystem Pre-Ship Review**
Peter Wizinowich, D. Scott Acton
25 Feb 98 (*KeckShare – PDF & Word*)
- 147 Subsystem Completion, Integration and Test**
Peter Wizinowich
15 Feb 98
- 146 Neutral Density and Color Filters for the Wavefront Sensor**
Peter Wizinowich
9 Feb 98 (*KeckShare – Word*)
- 145 Setting up the Laser Subsystem at Keck Headquarters**
Peter Wizinowich
27 Jan 98
- 144 Laser Deliverables and Acceptance Testing**
Chris Shelton, Peter Wizinowich, Paul Stomski
10 Dec 97 revised 11 Feb 98
- 143 Low Bandwidth Wavefront Sensor Optical Design**
Peter Wizinowich
12 Dec 97
- 142 Keck Adaptive Optics Program Status Report**
Peter Wizinowich
12 Nov 97 (*KeckShare – Word*)
- 141 Mauna Kea Laser Guide Star Technical Working Group Report to the Mauna Kea Directors and Users**
Peter Wizinowich
25 Sep 97
- 140 AO Supervisory Control**
William Lupton
17 Sep 97
- 139 Keck Adaptive Optics Program Status Report**
Peter Wizinowich
18 Aug 97 (*KeckShare – Word*)
- 138 Web-Based User Interface Status Report**
John Gathright, Richard Cohen, Peter Wizinowich, Paul Stomski
12 Aug 97 (*KeckShare – Word*)

Keck AO Notes List

May 31, 2010

- 137 **Wavefront Sensor Optical Design**
Peter Wizinowich, Skip Radau
9 Jul 97

- 136 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
1 May 97 (*KeckShare – Word*)

- 135 **CARA Adaptive Optics Software Status and Plan**
Peter Wizinowich
6 May 97

- 134 **Atmospheric Dispersion Correction**
Peter Wizinowich
10 Jun 97

- 133 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
6 Mar 97

- 132 **Laser Guide Star System: Diagnostics and Launch Telescope Critical Design Review and Response**
Peter Wizinowich
11 Feb 97 v

- 131 **Laser Guide Star System: Diagnostics and Launch Telescope Critical Design Review Report**
H.Friedman, D. Gavel, C. Max, G. Erbert, G. Thompson, T. Kuklo, N. Wong, M. Feldman, B. Beeman, H. Jones
01 Jan 97
Lawrence Livermore National Laboratory

- 130 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
09 Jan 97

- 129 **CARA Adaptive Optics Software Status and Plan**
Peter Wizinowich , Paul Stomski
09 Jan 97

- 128 **Wavefront Controller Engineering User Interface, Preliminary Design and Status**
Paul Stomski, Sarah Quady, Peter Wizinowich, Al Conrad
23 Dec 96

- 127 **Mirrors and Beamsplitters for the Adaptive Optics project**
D. Scott Acton
10 Dec 96 (*KeckShare – PDF*)

- 126 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
07 Nov 96

- 125 **The Telescope Simulator**
D. Scott Acton, Thomas Gregory
02 Oct 96

Keck AO Notes List

May 31, 2010

- 124 **Keck Observatory Proposal for the Operation of an Adaptive Optics Laser Guide Star Facility on Mauna Kea**
20 Dec 95 revised 31 Jul 96
- 123 **Keck II Adaptive Optics Facility - Critical Design Review for LLNL Subsystems External reviewer and Attendee Comments**
Peter Wizinowich, editor
5 Sep 96, revised 23 Sep 96
- 122 **NIRC-2 Interface Document DRAFT**
Peter Wizinowich, Anthony Gleckler
16 Sep 96 (*KeckShare – Word*)
- 121 **User Interface Plan**
Peter Wizinowich, Paul Stomski, John Gathright, Al Conrad
13 Sep 96
- 120 **Quad-cell Issues**
D. Scott Acton, J. Nelson, J. Brase
06 Sep 96 (*KeckShare – PDF*)
- 119 **AO Program Management Presentation**
19 Aug 96
- 118 **Keck Wavefront Control Software Analysis (version 1.6)**
J. Brase, J. An, B. Beeman, G. Berry, H. Jones, K. Waltjen, J. Watson
27 Jun 96 (*Large document – See Keck Archives*)
- 117 **Sodium Beacon Laser System for the Keck II Telescope: Critical Design Review**
22 Aug 96 (*Large document – See Keck Archives*)
- 116 **Keck Adaptive Optics Facilities Critical Design Review Wavefront Controller Subsystem**
21 Aug 96 (*Large document – See Keck Archives*)
- 115 **The Sodium Rejection Filter**
D. Scott Acton
19 Aug 96 (*KeckShare – PDF*)
- 114 **The Opto-mechanical Design of the Acquisition Camera**
D. Scott Acton and Thomas Gregory
15 Aug 96 revised 03 Dec 96 (*KeckShare – PDF*)
- 113 **A Low-Bandwidth Wavefront Sensor**
D. Scott Acton, Thomas Gregory, Peter Wizinowich
09 Aug 96 (*KeckShare – PDF*)
- 112 **Keck II Adaptive Optics Facility - Critical Design Review for CARA Subsystems External Reviewer and Attendee Comments**
24 Jul 96 (revised 01 Aug 96)
- 111 **Keck Adaptive Optics Software Design Book (v. 2.7)**
D. Scott Acton, A. Conrad, J. Gathright, W. Lupton, Paul Stomski, Peter Wizinowich
15 Jul 96

Keck AO Notes List

May 31, 2010

- 110 **Adaptive Optics Facility for the Keck II Telescope: Critical Design Review for the CARA Subsystem, July 15 - 17 1996**
AO group
15 Jul 96
- 109 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
06 Jun 96
- 108 **Phased Development Plan for CARA Subsystems - DRAFT**
08 May 96
- 107 **Science Path Optical Design - DRAFT**
Peter Wizinowich, Skip Radau, Anthony Gleckler
18 Jun 96 (*KeckShare – PDF & WordPerfect*)
- 106 **Focal Lengths of the Microlens Arrays**
D. Scott Acton
30 Apr 96
- 105 **Servo vs. Stepper for the AO Optics Bench**
Mark Sirota
24 Apr 96 (*KeckShare – PDF*)
- 104 **Results of the Nasmyth Platform Flexure Test**
D. Scott Acton, Thomas Gregory
02 Apr 96 (*KeckShare – PDF*)
- 103 **Nodding**
Peter Wizinowich, D. Scott Acton
12 Apr 96 (*KeckShare – Word*)
- 102 **Interferometer Impact on the Adaptive Optics Facility**
Peter Wizinowich
05 Apr 96 (*KeckShare – Word*)
- 101 **Keck Adaptive Optics Program Status Report**
Peter Wizinowich
04 Apr 96
- 100 **Keck II Nasmyth Platform Layout**
Peter Wizinowich, Thomas Gregory
02 Apr 96 (*KeckShare – Word*)
- 099 **Tilt Sensor Noise Issues**
Peter Wizinowich
05 Mar 96
- 098 **Motion and Position Control Specifications**
D. Scott Acton
11 Apr 96 (rev. 26 Sep 96) (*KeckShare – PDF*)

Keck AO Notes List

May 31, 2010

- 097 An Interferometer for the Keck Adaptive Optics Project**
D. Scott Acton
05 Apr 96 (*KeckShare – PDF*)
- 096 Optical Specs of the Sodium Dichroic**
D. Scott Acton
19 Apr 96 (*KeckShare – PDF*)
- 095 Adaptive Optics Image Rotator Alignment**
Thomas Gregory
18 Jan 96 (*Keck Share – PDF*)
- 094 Preliminary EMI Specification**
John Maute
19 Feb 96 (revised August 8, 1996) (*KeckShare – PDF*)
CARA Memorandum
- 093 Alignment & Motion Control Requirements for the Image Rotator**
D. Scott Acton
11 Apr 96 (*KeckShare – PDF*)
- 092 Notes on the Acquisition Camera**
Mark Sirota
30 Oct 95
- 091 Seeing Meeting; November 3, 1995**
03 Nov 95 (*Large document – See Archives*)
- 090 AO Coordinate Systems**
William Lupton
28 Mar 96
- 089 AO Observing and Data Reduction Techniques**
Peter Wizinowich
02 Feb 96 (*KeckShare – Word*)
- 088 Keck II Design Methodology Requirements**
William Lupton
19 Oct 95
- 087 Keck Adaptive Optics Program Report to Science Steering Committee**
20 May 96
- 086 Predicted Brightness of Laser Guide star Rayleigh Backscatter at the Keck Telescope Focal Plane**
Don Gavel
10 May 1996

Keck AO Notes List

May 31, 2010

- 082 ****FORTHCOMING ** Observing with NIRC 2**
B.T. Soifer, Peter Wizinowich (*KeckShare – Word*)
- 081 **The Tip - Tilt Focus Sensor**
D. Scott Acton
12 Apr 96 (*KeckShare – PDF*)
- 080 **AO Optics Bench Subsystem (OBS) VME Software Startup Procedure**
Paul Stomski, Kevin Tsubota
- 079 **AO Optics Bench Subsystem (OBS) Device Analysis and Configuration**
Paul Stomski, Kevin Tsubota
- 078 **AO Optics Bench Subsystem (OBS) Device Control Sequence**
Paul Stomski, Kevin Tsubota
- 077 **AO Optics Bench Subsystem (OBS) Alarm Handler User's Guide**
Paul Stomski, Kevin Tsubota
- 076 **AO Optics Bench Subsystem (OBS) PMAC Channel Swap Guide**
Paul Stomski, Kevin Tsubota
- 075 **AO Optics Bench Subsystem (OBS) Engineering User Interface Guide**
Paul Stomski, Kevin Tsubota
- 074 **AO Optics Bench Subsystem (OBS) PMAC Board Config Checklist**
Paul Stomski, Kevin Tsubota
- 073 **AO Optics Bench Subsystem (OBS) Device Test Checklist**
Paul Stomski, Kevin Tsubota
- 071 **Keck Adaptive Optics Program SSC Status Report -July 22, 1996**
22 Jul 96
- 070 **Keck Adaptive Optics Program Status Report -August 11, 1995**
Peter Wizinowich
11 Aug 96
- 069 **Keck Adaptive Optics: Test of a Deformable Mirror in a Freezing Environment**
D. Scott Acton, Paul Stomski, Peter Wizinowich, John Maute, Thomas Gregory
08 Jul 96 OSA Adaptive Optics Conference, Maui, HI, 8-12 July 1996
- 068 **Keck Adaptive Optics: User Interface and Supervisory Control Subsystem**
Paul Stomski, Peter Wizinowich, D. Scott Acton, William Lupton, John Gathright, Al Conrad, Hilton Lewis, Thomas Gregory
08 Jul 96 OSA Adaptive Optics Conference, Maui, HI, 8-12 July 1996
- 067 **Keck Adaptive Optics: Optical Bench Subsystem**
Thomas Gregory, Peter Wizinowich, D. Scott Acton, Anthony Gleckler, Paul Stomski, S. Radau, John Maute, Mark Sirota
08 Jul 96 OSA Adaptive Optics Conference, Maui, HI, 8-12 July 1996

Keck AO Notes List

May 31, 2010

- 066 *Keck Adaptive Optics: Error Budget***
Peter Wizinowich
08 Jul 96 OSA Adaptive Optics Conference, Maui, HI, 8-12 July 1996 (*KeckShare – Word*)
- 065 *W.M. Keck Observatory Adaptive Optics Facility***
P. Wizinowich, D. Scott Acton, A. Gleckler, Thomas Gregory, Paul Stomski
08 Jul 96 OSA Adaptive Optics Conference, Maui, HI, 8-12 July 1996 (*KeckShare – Word*)
- 064 *Draft Report on Preliminary Design Review for Keck AO Laser Subsystem***
Peter Wizinowich
18 Mar 96
- 063 *Sodium Beacon Laser System for the Keck II Telescope: Preliminary Design Review***
14 Mar 96 Lawrence Livermore National Laboratory, LLNL (*See Admin Files 12.2*)
- 062 *Keck Adaptive Optics Program Status Report***
Peter Wizinowich
02 Feb 96
- 061 *Keck Adaptive Optics Program; Report to Science Steering Committee***
11 Jan 96
- 060 *Correction of Atmospheric Dispersion in the Infra-red***
C. G. Wynne
09 Jan 96
- 059 *Correction of Differential Atmospheric Refraction Effects in the Adaptive Optics System***
Anthony Gleckler
02 Jan 96
- 058 *Keck Adaptive Optics Program Status Report -December 14, 1995***
Peter Wizinowich
14 Dec 95
- 057 *Keck AO PDR summary, comments and update***
Peter Wizinowich
11 Dec 95
- 056 *Laser Guide Star Adaptive Optics Facility: Laser Placement***
Peter Wizinowich
08 Dec 95
- 055 *Adaptive Optics Facilities -Preliminary Design Review. Wavefront Controller Subsystem. November 29 -30 1995***
29 Nov 95 Lawrence Livermore National Laboratory
- 054 *Adaptive Optics Facility for the Keck II Telescope -Preliminary Design Review Meeting. November 29 -30 1995***
29 Nov 95 CARA AO group
- 053 *Fried's Parameter, Isoplanatic Angle and Isokinetic Angle Measurements for Keck at 2.2 Microns***
B.L. Klein, A.M. Ghez

Keck AO Notes List

May 31, 2010

- 052 ***Notes on the Adaptive Optics Error Budget***
Terry Mast
01 Nov 95
- 051 ***Keck Adaptive Optics Error Budget***
Peter Wizinowich
15 Sep 95 (*KeckShare – PDF & Word*)
- 050 ***Keck Adaptive Optics Program Status Report -September 14, 1995***
P. Wizinowich
14 Sep 95
- 049 ***KSD 79: Software Infrastructure for Adaptive Optics***
William Lupton
12 Sep 95
- 048 ***KSD 87: Keck II EPICS standards***
William Lupton
12 Sep 95
- 047 ***Adaptive Optics Bench Motion Control: Field and Pupil Steering***
P. Wizinowich
06 Sep 95
- 046 ***NIRC-2 Alignment to the Adaptive Optics Bench***
Thomas Gregory
29 Aug 95 (*KeckShare – Word*)
- 045 ***KSD 81: AO System States Description***
Paul Stomski
11 Aug 95
- 044 ***ADC, correspondence to Peter Wizinowich***
C. G. Wynne
07 Aug 95
- 043 ***The effect of laser guide star elongation on AO system performance***
D. Gavel, J. Brase
01 Aug 95. LLNL report
- 042 ***Near infrared astronomy with adaptive optics and laser guide stars at Keck Observatory***
C. Max, D. Gavel, S. Olivier
01 Aug 95
- 041 ***Calibration Techniques for Non-Common Path Optics in the Keck Adaptive Optics System***
Anthony Gleckler
17 Jul 95
- 040 ***Keck Adaptive Optics Program Status Report -July 13, 1995***
Peter Wizinowich
13 Jul 95

Keck AO Notes List

May 31, 2010

- 039 ***Performance Predictions for the Keck Telescope Adaptive Optics System***
D.T. Gavel, S.S. Olivier
09 Jul 95 SPIE's 40th Annual Meeting 9 -14 July 1995
- 038 ***Optical Design of the Keck Adaptive Optics System***
Anthony Gleckler, Peter Wizinowich, Skip Radau, Tom Gregory
7Jul95
- 037 ***W. M. Keck Observatory Adaptive Optics Program***
Anthony Gleckler, Peter Wizinowich
01 Jul 95 SPIE's 40th Annual Meeting 9 -14 July 1995
- 036 ***Keck Observatory Adaptive Optics Program***
Peter Wizinowich, Anthony Gleckler
30 Jun 95 OSA Adaptive Optics Meeting, Munich, Oct95
- 035 ***Adaptive Optics Bench to NIRC-2 Alignment***
Thomas Gregory
29 Jun 95 (*KeckShare – Word*)
- 034 ***Focus errors, and their correction, in an adaptive optical system utilizing a laser guide star***
Anthony Gleckler
6 Jun 95
- 033 ***Position of NIRSPEC with respect to AO system***
A.D. Gleckler
10 May 95
- 032 ***W.M. Keck Observatory Adaptive Optics Review Meeting, 2-4 May 1995, Hawaii***
2 May 95
- 031 ***Dichroic Beamsplitter for Keck AO System***
Lawrence Livermore National Laboratory, LLNL
2 May 95
- 030 ***Review of Keck Laser Proposal to CARA from LLNL***
Patrick N. Everett
30 Mar 95
- 029 ***Keck Adaptive Optics User Facilities: Optics Bench Subsystem and Adaptive Optics System Enclosure***
Anthony Gleckler, Peter Wizinowich
28 Mar 95
- 028 ***Keck Adaptive Optics User Facilities: User Interface and Supervisory Control Subsystem Plan***
Anthony Gleckler, Peter Wizinowich
23 Mar 95
- 027 ***Laser and Laser Hardware Subsystems for Keck Observatory***
Lawrence Livermore National Laboratory
13 Mar 95

Keck AO Notes List

May 31, 2010

- 026 ***Wavefront Controller Subsystem for Keck Adaptive Optics***
Lawrence Livermore National Laboratory
28 Feb 95
- 025 ***Near Infrared Atmospheric Characterization at Keck***
Andrea Ghez Date: 28 Feb 95
28 Feb 95
- 024 ***Keck Adaptive Optics Wavefront Controller: Proposal No. 70-4140***
Jet Propulsion Laboratory
28 Feb 95
- 023 ***Near Infrared Image Motion and Differential Motion at Keck***
Beth Klein and Andrea Ghez
28 Feb 95 UCLA , Dept. of Physics and Astrophysics
- 022 ***Documentation for Adaptive Optics Subsystems***
P. Wizinowich
07 Feb 95
- 021 ***Conceptual Design Meeting: Keck AO Facilities II and III***
07 Dec 94
- 020 ***Atmospheric Characterization for Adaptive Optics***
Gary Chanan
06 Dec 94
- 019 ***Guidelines for Keck Adaptive Optics Subsystem Proposals***
Peter Wizinowich
05 Dec 94
- 018 ***Keck AO Program Preliminary Schedule and Budget***
P. Wizinowich
23 Nov 94
- 017 ***LLNL f/15 Adaptive Optics Layout UCRL-JC-119371***
J.T. Salmon
23 Nov 94
- 016 ***System Architecture and Subsystem Definitions for Keck AO System***
Anthony Gleckler, Peter Wizinowich
11 Nov 94
- 015 ***Wavefront Reconstructor Information***
A.D. Gleckler
28 Oct 94
- 014 ***Layout alternatives for the AO system***
A.D Gleckler, P. Wizinowich
13 Oct 94

Keck AO Notes List

May 31, 2010

- 013** *Evaluation of the f/15 and f/40 secondary mirror options for the AO facilities*
A. D. Gleckler, P. Wizinowich, S. Radau
03 Oct 94
- 012** *Adaptive Optics for Keck Observatory*
Keck Staff and California Community
01 Sep 94
- 011** *Report on Measured Image Motion on the Keck Telescope*
Anthony Gleckler
01 Jun 94
- 010** *Adaptive Optics Facility I Design Review April 28, 1994*
28 Apr 94
- 009** *High Speed Seeing Measurements at the Keck Telescope*
F. Dekens, D. Kirkman, G. Chanan, T. Mast, J. Nelson, G. Illingworth, P. Wizinowich
3 Mar 94 SPIE vol. 2201 Adaptive Optics in Astronomy.
- 008** *Issues in the Design and Optimization of Adaptive Optics and Laser Guide Stars for the Keck Telescopes*
C. Max, D. Gavel, S. Olivier, J. Brase, H. Friedman, K. Avicola, J. Salmon, A. Gleckler, T. Mast, J. Nelson, P. Wizinowich
01 Mar 94 SPIE vol. 2201 Adaptive Optics in Astronomy.
- 007** *W.M. Keck Observatory Adaptive Optics Program*
Peter Wizinowich, Jerry Nelson, Terry Mast, Anthony Gleckler
01 Mar 94 SPIE vol. 2201 Adaptive Optics in Astronomy.
- 006** *Atmospheric-Seeing Data Analysis*
Terry Mast (editor), Bill Bradford, Jim Brase, Frank Dekens, Don Gavel, Tony Gleckler, Jerry Nelson, Scot Olivier, Peter Wizinowich
01 Jan 94
- 005** *Calculating atmospheric parameters from image motion*
P. Wizinowich
16 Nov 93
- 004** *Atmospheric Characterization*
P. Wizinowich, A. Gleckler
16 Nov 93
- 003** *Keck Seeing Monitor (KSM) User Manual*
Gary Chanan, David Kirkman
15 Sep 93
- 002** *Keck Adaptive Optics: Predicted Performance for Low Order Correction*
Peter Wizinowich
18 Mar 93
- 001** *The Adaptive Optics Program for Keck Observatory*
The Adaptive Optics Working Group
01 Oct 92