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Abstract

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New Initiatives at the CHARA Array

Presentation #302.27 in the session Instrumentation: Ground Based or Airborne.

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The CHARA Array and consortium have been making significant progress in upgrades of its facilities and instrumentation programs. The adaptive optics systems for all six telescopes are now online and in regular operation. Three new interferometric beam combiners are being commissioned and expected to be ready for

science operations next semester. Our new mobile 7th telescope has achieved first light and is soon undergoing the installation of its adaptive optics system. Optical fibers with a

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

length of 650m are being tested for interferometric use and are being installed to integrate this telescope with the Array. The NSF-funded open-access time for CHARA is growing and offers 100 nights per year to the community. CHARA has also increased its public outreach and educational efforts, partnering with Shadow the Scientists to allow the public a chance to view operations of the largest interferometer in the world. These new initiatives aim to increase the sensitivity of the Array by up to 2 magnitudes, increase scientific throughput by simultaneous operation of combiners in visible and NIR wavebands, to nearly double the maximum baseline and thus minimum angular resolution of the Array, and to increase utility of the Array for the community. Expanding public outreach aims to raise public awareness about optical interferometry and its capabilities and impact.

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