

Abstract Submitted
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KAPAO II: Assembly and Operation of a Natural Guide Star Adaptive Optics System JONATHAN WONG¹, Pomona Coll, KAPAO TEAM — KAPAO is a natural guide star Adaptive Optics instrument for the 1-meter telescope at Table Mountain Observatory (TMO). The system has been a four-year, multi-institutional effort, with four distinct phases: design, prototype testing, facility instrument assembly, and science operation. The design and prototype testing phases were presented at last year's APS meeting. Here, we focus on the assembly of the final facility instrument and discuss in-lab system calibration. Integral to the assembly of the final system is the precise alignment of multiple off-axis-parabolic (OAP) mirror relays that minimize instrument-based static aberrations. Custom OAP relays are a key upgrade from the prototype that serves to properly integrate the tip-tilt mirror and deformable mirror and feed the wavefront sensor and science cameras. We present performance results from in-lab tests that simulates atmospheric turbulence using an active phase screen.

¹KAPAO is a multi-institution collaboration to develop an adaptive optics (AO) instrument for the Pomona College Table Mountain 1-meter telescope.

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