

Awakenings

Renovation and Commissioning of the Gemini Polarization Module (GPOL)

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Two Gemini Polarization (GPOL) Units were built for Gemini North and South in 2003, but never commissioned. Our team was selected by AURA to investigate creating a single GPOL unit and commissioning it with the NIRC2 near-infrared imager.

1. Component shipping

GPOL-S (right) and parts of GPOL-N have been shipped to Herzberg Astrophysics (HAA) for inspection and testing.



2. Mechanical testing

Team members at HAA have confirmed that all mechanical parts are in good condition and all motors operate smoothly.

The single existing set of waveplates includes 3 different polarizers (right) and 2 half-wave retarders.



3. Software testing

Team members at Texas A&M and Gemini tested the software remotely with GPOL-N and verified repeatable plate rotation. We are working to migrate GPOL to the RTEMS operating system used by other Gemini controls.

4. Next steps

- Ship remaining GPOL-N components to HAA.
- Develop a renovation plan and tests for refurbished instrument and software.
- Design an observing strategy for GPOL with NIRC2 (below). Science commissioning projects include imaging protoplanetary disks and monitoring Be stars in open clusters.

