



## **North American AstroPhysical Observatory (NAAPO)**



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# **In Search of Planets**

## ***The Extrasolar Planetary Foundation Report***

By: George Gatewood

The first system with more than sufficient power to discover the planets of other stars is now under construction at the Allegheny Observatory of the University of Pittsburgh. This Observatory will employ a new electronic detector on its 76 centimeter aperture Thaw photographic refractor. Expected to become operational this fall, the system will be able to glean more directional information in one hour than the previous system could obtain during an entire year of photography.

Unfortunately, the new detector and the Thaw refractor are less than a perfect match, the detector having more potential than the telescope's 67 year old objective lens. Careful analysis has shown that this mismatch can be overcome by replacing the objective. The group at Allegheny, working with scientists at the University of Arizona's Optical Center, have determined that a lens focusing red light would give the new system at least 3 times as much precision and more than 5.5 times its current sensitivity to intrinsically faint nearby stars. Combined, the new electronic detector and the red light lens would give the Allegheny group the ability to detect Jupiter-like planets orbiting more than 100 neighboring stars. The projected cost of the lens is \$97,000. In other words, the additional cost would be approximately \$1,000 per star.

Because of its unusual potential return per dollar, the EPF has designated the acquisition of a new objective for this telescope as its first special project. We are informed that \$32,000 from private funds has already been set aside for this project by the observatory. This leaves us \$65,000 shy. It has been estimated that the new lens could be installed within 1 year of the date the glass is ordered.

We at the EPF believe that this is the best way to bring the first really powerful planet detection system on line quickly and efficiently. If you would like to join our effort to get this project going, please write the Extrasolar Planetary Foundation, Observatory Station, Pittsburgh, Pennsylvania 15214. Your cumulative patronage can go a long way towards this goal. Thanks.

**George Gatewood, Chairman**  
Extrasolar Planetary Foundation.

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