

My Participation in the IPP Mars Photographing Missions

Photograph Mars for the International Planetary Patrol (IPP) of the Lowell Observatory Planetary Research Center was the primary mission of the various observers selected by Chick Capen and Leonard Martin. During **August 1980** Don Parker and I met with Chick Capen and Leonard Martin at Lowell Observatory to observe Mars and to get acquainted with the observatory staff and observers. We observed Mars for several mornings and in the process Don Parker and I were instructed in operating the 24-inch Clark Refractor, dome and Patrol Camera systems. Sometime in 1979 Don and I obtained two Carroll-Bohanon needle-point micrometers to begin measuring the polar caps of Mars and we recorded hundreds of measurements during the 1980 apparition of Mars with our own personal telescopes at home.

The International Planetary Patrol telescopes:

Mauna Kea Observatory, Hawaii: 24-inch, F/75 Boller and Chives Cassegrain

Mount Stromlo Observatory, Australia: 26-inch Yale-Columbia Refractor

Kodaikanal Astrophysical Observatory, India: 18-inch telescope

Republic Observatory, Johannesburg, South Africa: 26-inch Innes refractor, 20-inch, Boller and Chivens Cassegrain

Cerro Tololo Interamerican Observatory, Chile: 24-inch, F/75 Boller and Chivens Cassegrain

Magdalena Peak Station, New Mexico: 24-inch, F/75 Boller and Chivens Cassegrain

Lowell Observatory, Flagstaff, AZ: 24" Morgan Cassegrain, 24" Clark refractor

In **June 1981**: Don Parker and I flew out to Flagstaff to visit with the Capen's and familiarize us with the Lowell telescopes and the International Planetary Patrol. We observed Jupiter and other objects.

In late March and early **April, 1982** Parker and I traveled to Lowell Observatory and shared duties in IPP photographing Mars using the 24" Clark refractor with Chick Capen and Leonard Martin. We produced thousands of photo frames of Mars. During that trip Leonard took Parker and I out to use the 72-inch Perkins telescope at Anderson Mesa. We observed Mars for several hours. We observed some with the 31-in National Undergraduate Research Observatory (NURO) Telescope as well. Also, we recorded hundreds of north polar cap measurements using the Carroll-Bohanon needle-point micrometer with the 12" Clark Refractor attached to the 24" telescope.

In early **May 1984** Don Parker and I again traveled to Lowell Observatory and shared duties in IPP photographing Mars using the 24" Clark refractor with Leonard Martin. We again produced thousands of photo frames of Mars. By that time Don and I had purchased our own Bi-Filar Micrometers that were produced by Ron Darbinian and had recorded hundreds of polar cap measurements at home. We bought along one micrometer to use with the 12" Clark Refractor attached to the 24" telescope.

During **August 1988** at the Cerro Tololo Inter-American Observatory: IPP photographing Mars, Leonard Martin (2-week schedule), Don Parker (2-week schedule), me (1-week schedule). Leonard Martin met Don Parker to instruct him in the operation of the 24" f/75 Boller-Chivens Cassegrain reflector planetary camera system. Tagging along was Bill Douglass (Miami, FL) and Diane Lucas (Cleveland, OH) to keep Don company after Leonard left. Shortly there after Don called me describing a problem with collimation of the telescope and we worked how to correct the situation. He called maintenance and the telescope was properly collimated. By the time I arrived it was working very well and we produced thousands of photo frames of Mars. I brought my Darbinian bi-filer micrometer and made measurements of the polar cap of Mars.

In **late October and early November, 1990** I traveled to Mauna Kea, Hawaii, to photograph Mars using the 24" f/75 Boller-Chivens Cassegrain reflector planetary camera system (UH24) and we produced thousands of photo frames of Mars. I also brought my Darbinian bi-filer micrometer and made measurements of the polar cap of Mars. An article on this trip can be found here:
<http://www.alpo-astronomy.org/jbeish/MAUNAKEA.pdf>

In **mid-June, 1992** Don Parker and I again traveled to Lowell Observatory and shared duties in IPP photographing Mars with Leonard Martin. We again produced thousands of photo frames of Mars using the 24-inch Clark Refractor. We produced thousands of photo frames of Mars. I also brought my Darbinian bi-filer micrometer and made measurements of the polar cap of Mars. Don, Leonard and I were allowed to use the 72-inch (1.8-meter) Perkins telescope at Anderson Mesa, AZ to observe Mars.