

The evolution of ARC/3.5m

Current ARC Partner Institutions

- University of Washington
- New Mexico State University
- Princeton University (until June 2014)
- University of Chicago (until Dec 2014)
- Johns Hopkins University (joined 1992)
- University of Colorado (joined 2001)
- University of Virginia (joined 2007)

New Leasing Institutions

(starting in 2014)

- Georgia State University
- University of Oklahoma
- Seattle University
- Northeastern Astronomy Participation Group
(Bucknell University, Colgate University, Haverford College, Hobart & William Smith Colleges, Middlebury College, Williams College)

Program specific leases (2014)

- APOLLO laser-ranging program (ongoing)
- IHEP, Chinese Academy of Sciences (large monitoring program, 10 half nights/month)
- Cal State Northridge (CSUN - special one year program for undergraduate education)
- NIAOT, National Astronomical Observatories of China (visiting AO instrument program, has ties to NMSU and CSUN)
- Starting soon: Adler Planetarium (large NASA grant focused on Near Earth Objects)

Scientific Productivity

(last 10 years)

- ~ 500 papers in refereed journals
- ~ 40 PhD theses
- ~ 250 graduate and undergraduate students trained to observe
- Major followup resource for SDSS
- Many ground-based campaigns simultaneous with satellite observations (e.g. HST, Chandra)
- Numerous ToO and time domain programs

New instruments

- ARC Telescope Imaging Camera (ARCTIC)
 - PI Joe Huehnerhoff (UW, APO)
 - new optical imager, 8'x8' FOV, successful PDR in Oct 2013, final design and construction in 2014-15, commissioning planned summer 2015
- Fiber feed to SDSS APOGEE instrument under consideration
- Next big instrument likely new optical spectrograph

Summary of APO 3.5m Attributes

(selling points for new partners)

- Efficient, low-risk, low-cost, fully functional telescope at a good site, with large suite of instruments and very low downtime (<1% per year for past 4 years). Our primary goal is that users get good data, every night!
- Flexible scheduling - half nights, rapid followup, target of opportunity, long term monitoring programs, surveys
- Fast instrument changes - all instruments kept cold and available every night
- Remote observing - reduces costs, improves efficiency, easy to use, good documentation
- Graduate student training and access
- Opportunities for visiting instruments, innovative programs (e.g. APOLLO laser ranging)

The future is bright!

- New partners – leasing institutions, project-oriented programs, possible new ARC partners
- New instruments – ARCTIC imaging camera, fiber feed to APOGEE, new optical spectrograph
- Time share with WIYN underway, investigating time share with SOAR
- More emphasis on time domain (e.g. LSST followup)
- ARCSAT (former PT) refurbished, now available to ARC partners for remote observations