



Comparison 2

A Comparison of the VLA and MRO

Property	VLA	MRO
<i>Lambda/d</i>	2.4 millirad 495 arcsec	0.26 microrad 0.14 arcsec
<i>Lambda/b min</i>	1.7 millirad 353 arcsec	0.1 microrad 0.02 arcsec
<i>Lambda/b max</i>	1.7 microrad 0.3 arcsec	2.5 nanorad 0.5 mas
<i>Range of scale</i>	40:1 single config 10:1 1000:1 multiple config 40:1	

Examples

The Sizes of Interesting Objects and the Baseline Needed to Resolve them at 1 Micron

- A0V star in the Local Major Moving Cluster (25 pc), 4.3 nanorad, 260 m
- KOIII star in the Hyades (50 pc), 13 nanorad, 90 m
- KOIII star in Coma Berenices (90 pc), 7.3 nanorad, 160 m
- A0V star in the Pleiades (120 pc), 0.9 nanorad, 1350 m
- A0V star in rho Oph (160 pc), 0.7 nanorad, 1800 m
- KOIII star in alpha Per or Praesepe (180 pc), 3.7 nanorad, 325 m
- Protostellar disk in the Taurus (150 pc), 70 microrad, 0.1 m
- AGN in Virgo (20 Mpc), 3 microrad, 1.0 m

Timeline

Projected Timeline

- Preliminary design review, October 2002
- Critical design review, Spring 2003
- Complete EIS, Spring 2003
- Ground Breaking, Summer 2003
- First light with one telescope, 2006
- All hardware on site, 2007
- Initial Operational Capability, 2008

Design

Telescope Design

Our Optical Designer, Dick Horton, has drawn up an entirely new elevation-elevation mount with Dall-Kirkham optics that uses on five reflections to feed the relay lines and preserves polarization. This eliminates some of the well-known challenges with alt-az telescopes.