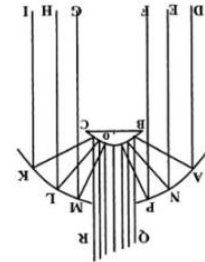
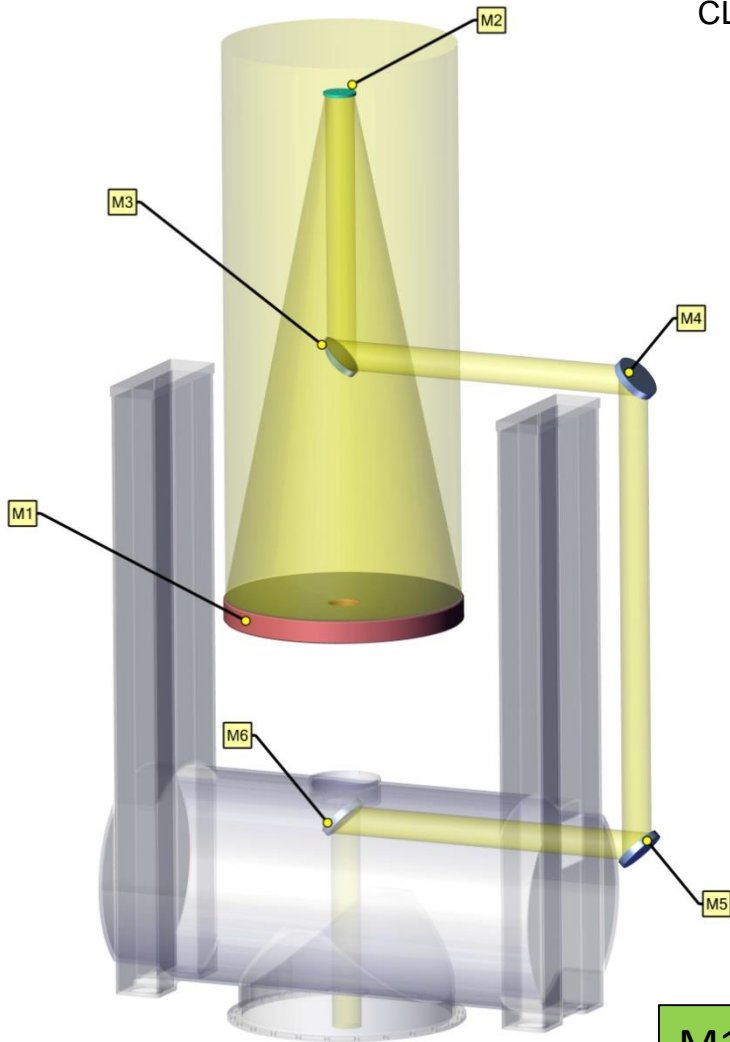


CHARA TELESCOPE



CLASSICAL TWO MIRROR TELESCOPE
(MERSENNE 1636)



M1: D = 1 m
F = 2.5 m
CONCAVE PARABOLOID

M2: D = 0.14 m
F = - 0.312 m
CONVEX PARABOLOID

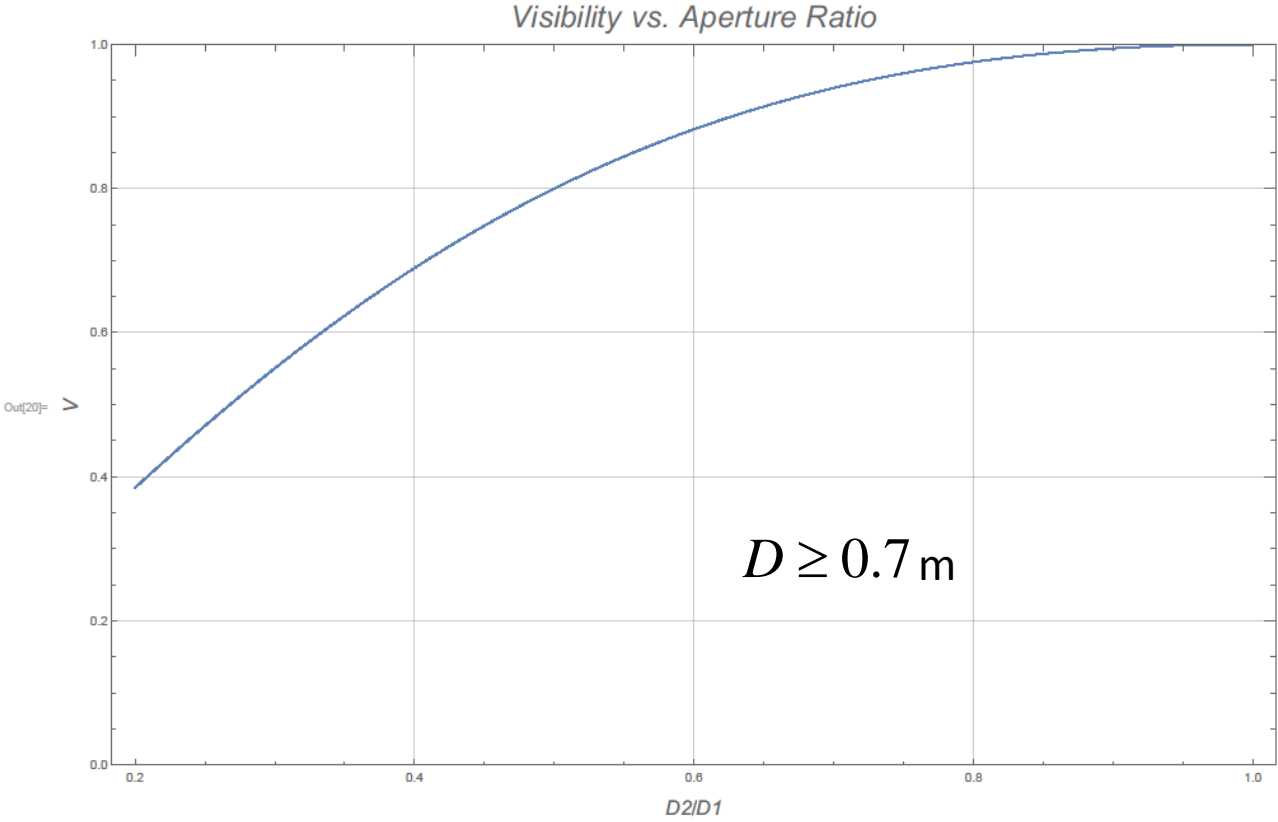
M1 AND M2 CONFOCAL
1:8 BEAM COMPRESSION

M3,M4,M5,M6... FLATS

OUTPUT BEAM \varnothing 0.125 m

M1 AND M2 FOR THE 7-TH TELESCOPE ARE IN HAND

MIXED APERTURES



TELESCOPE SPECIFICATION

- all mirrors
- afocal
- output beam diameter 0.125 m
- matching polarization
- coude telescope

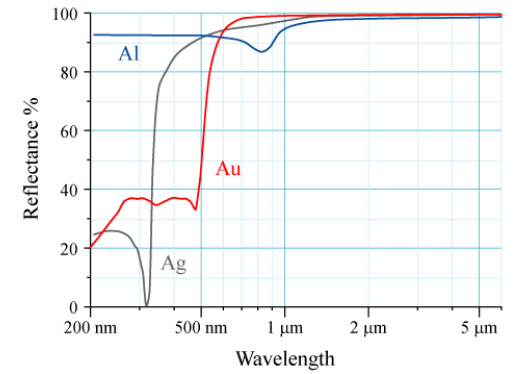
TELESCOPE SPECIFICATION

- all mirrors
- afocal
- output beam diameter 0.125 m
- matching polarization
- coude telescope

IDENTICAL OR SLIGHTLY SCALED DOWN VERSION OF THE
CURRENT TELESCOPES

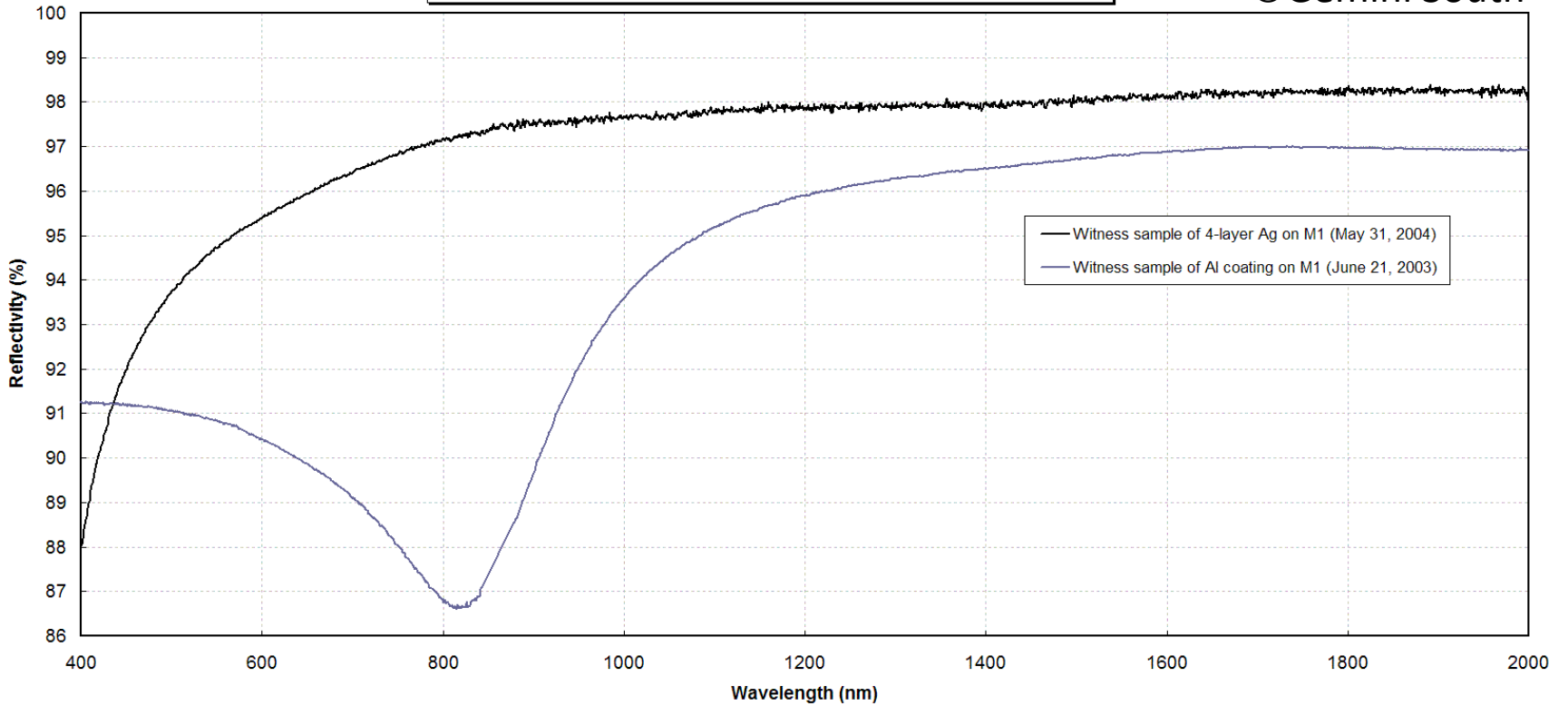
MIRROR COATINGS

Reflectivity in Optical & Emissivity in IR



Comparison between protected-Ag and Al coating

© Gemini South



Expected life time of protected Ag in Chile 12-18 months

The good

The basic design

1. optical design
2. altitude-azimuth arrangement
3. stiff open tube design
4. friction drives
5. incremental encoders on the drive journals
6. cable wrap
7. the telescopes are elevated from the ground
8. compact domes
9. idea of cylinders

The bad

The devil is in the details

1. there was no provision for optical alignment
2. difficult/very difficult servicing and maintenance
3. cable management
4. inadequate mirror removal fixtures
5. two fixed idler plus a spring loaded AZ drive wheel
6. drive oscillations
7. cable wrap cut cables
8. coupling between the dome and the telescope
9. dome drive
10. implementation of cylinders

The ugly

production sloppiness (lack of care)

1. overall workmanship
2. painting, rust proofing