

Observing Near Earth Objects with MIRS

David E. Trilling

with

M. Mommert, J. Hora, H. Smith, N. Moskovitz

and

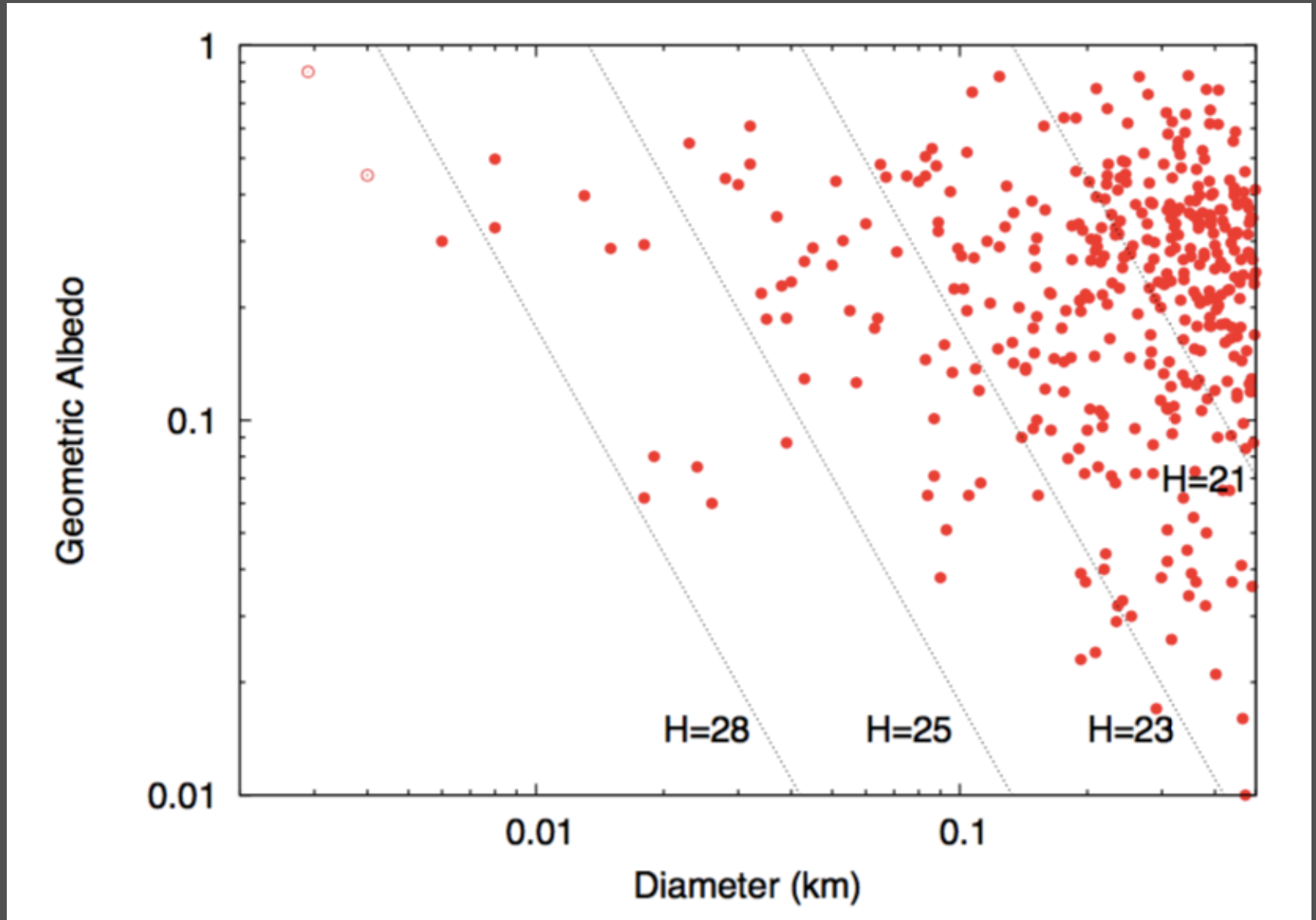
IRTF staff

MIRSI

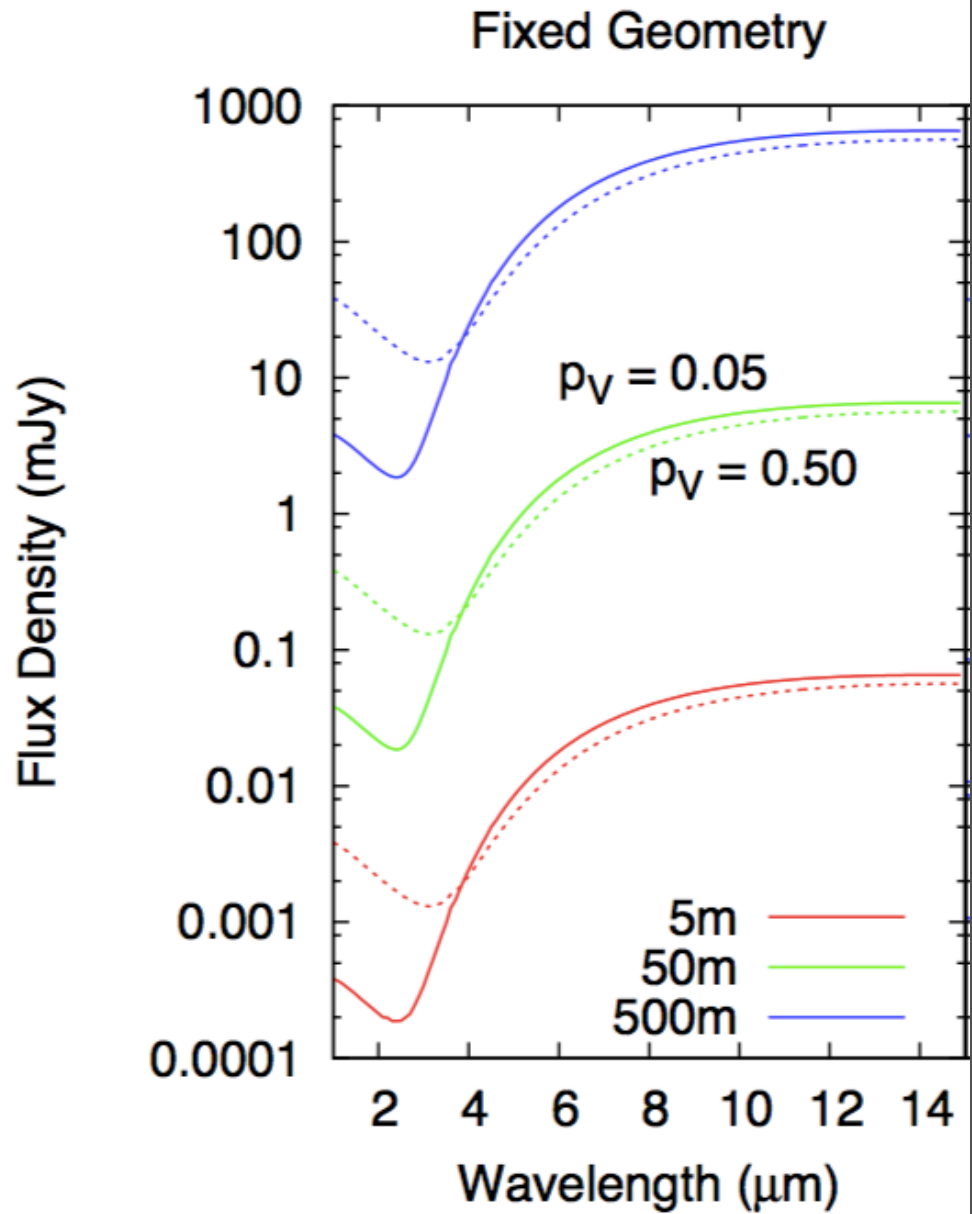
- Mid-Infrared Spectrometer and Imager
- N band and Q band
- IRTF (2002—2012), liquid He cooled

- Refurbishment funded through PME award (liquid He → cryocooler)
- NEO project funded through SSO/NEOO

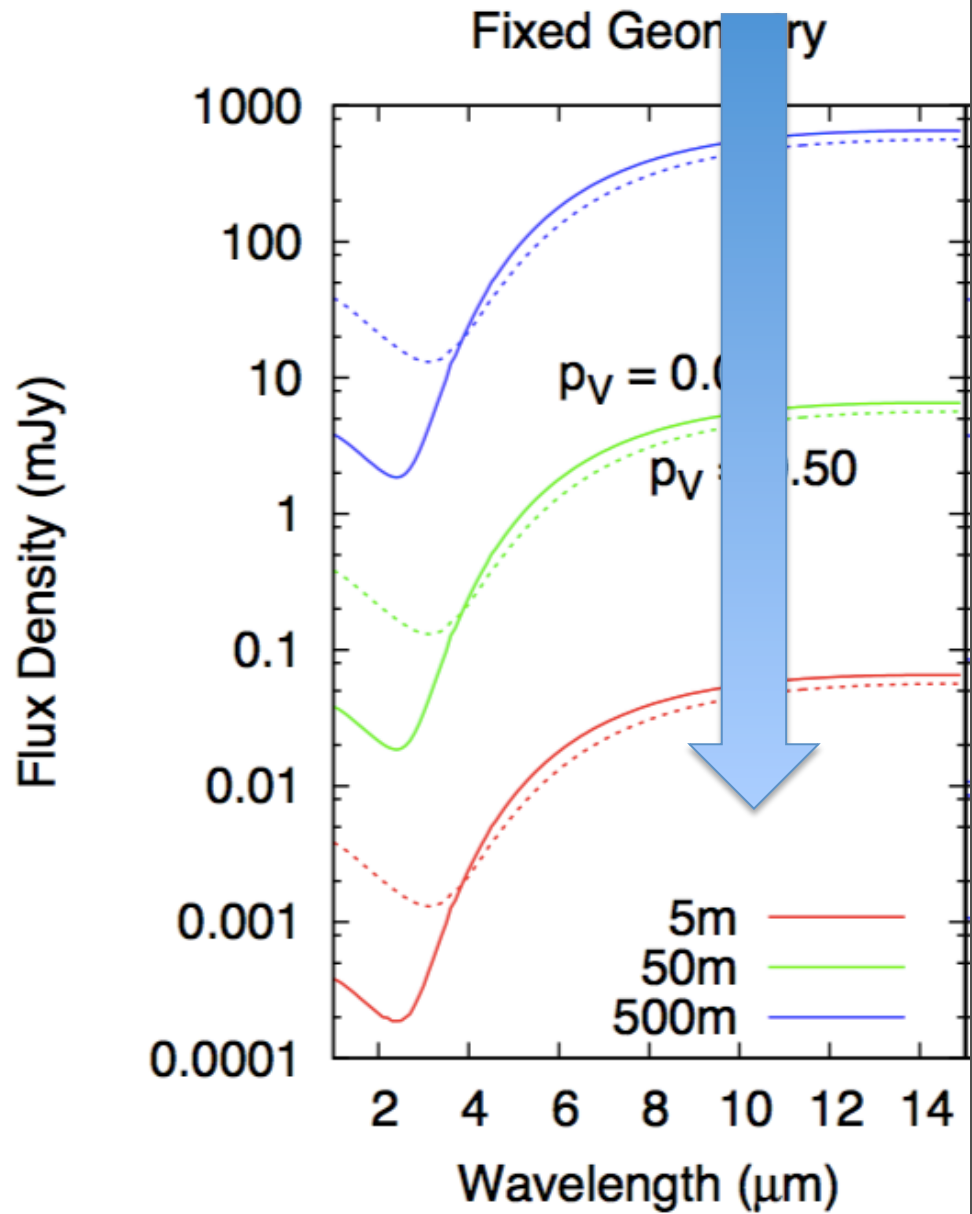
NEOs with known albedos and diameters



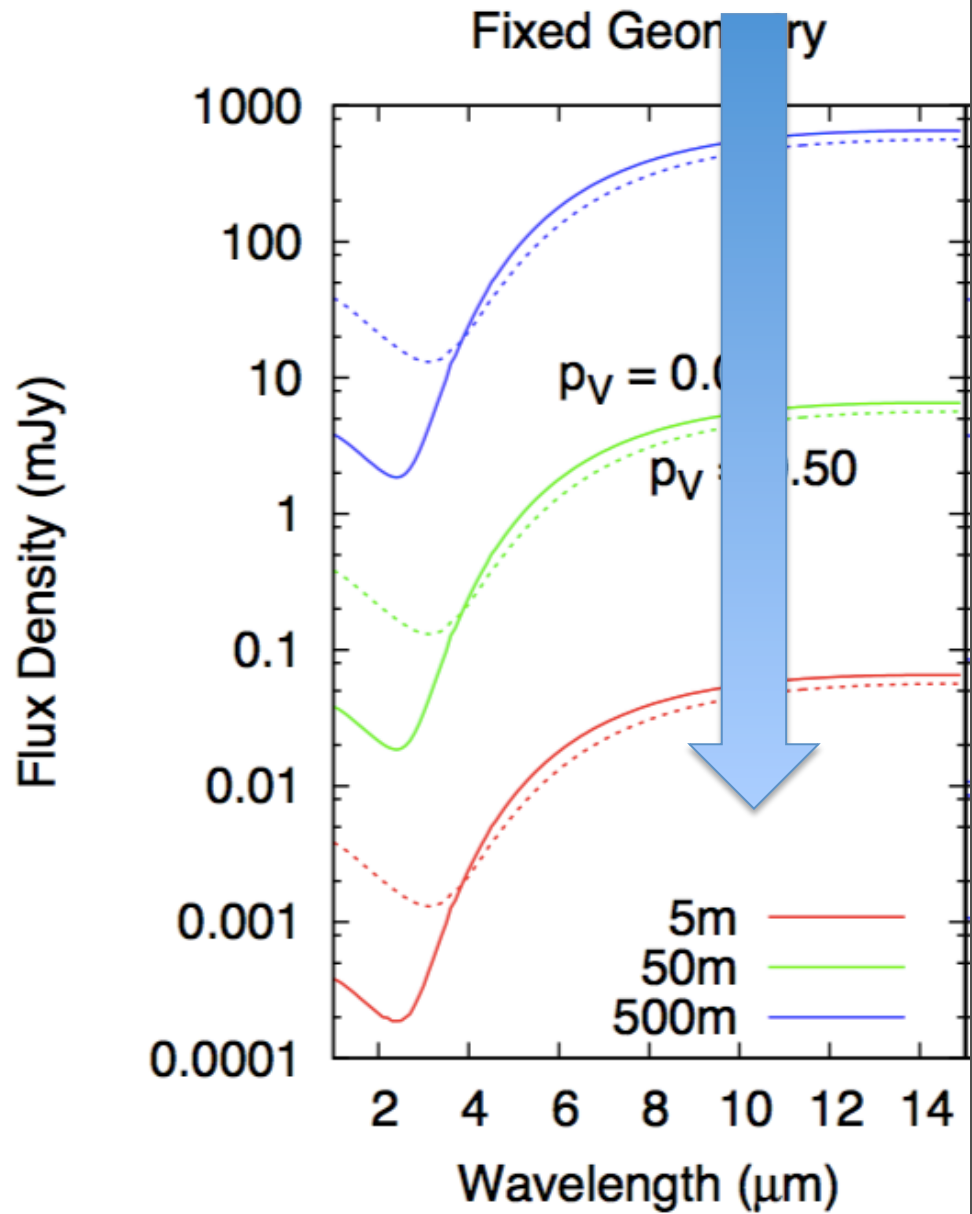
Generic NEOs

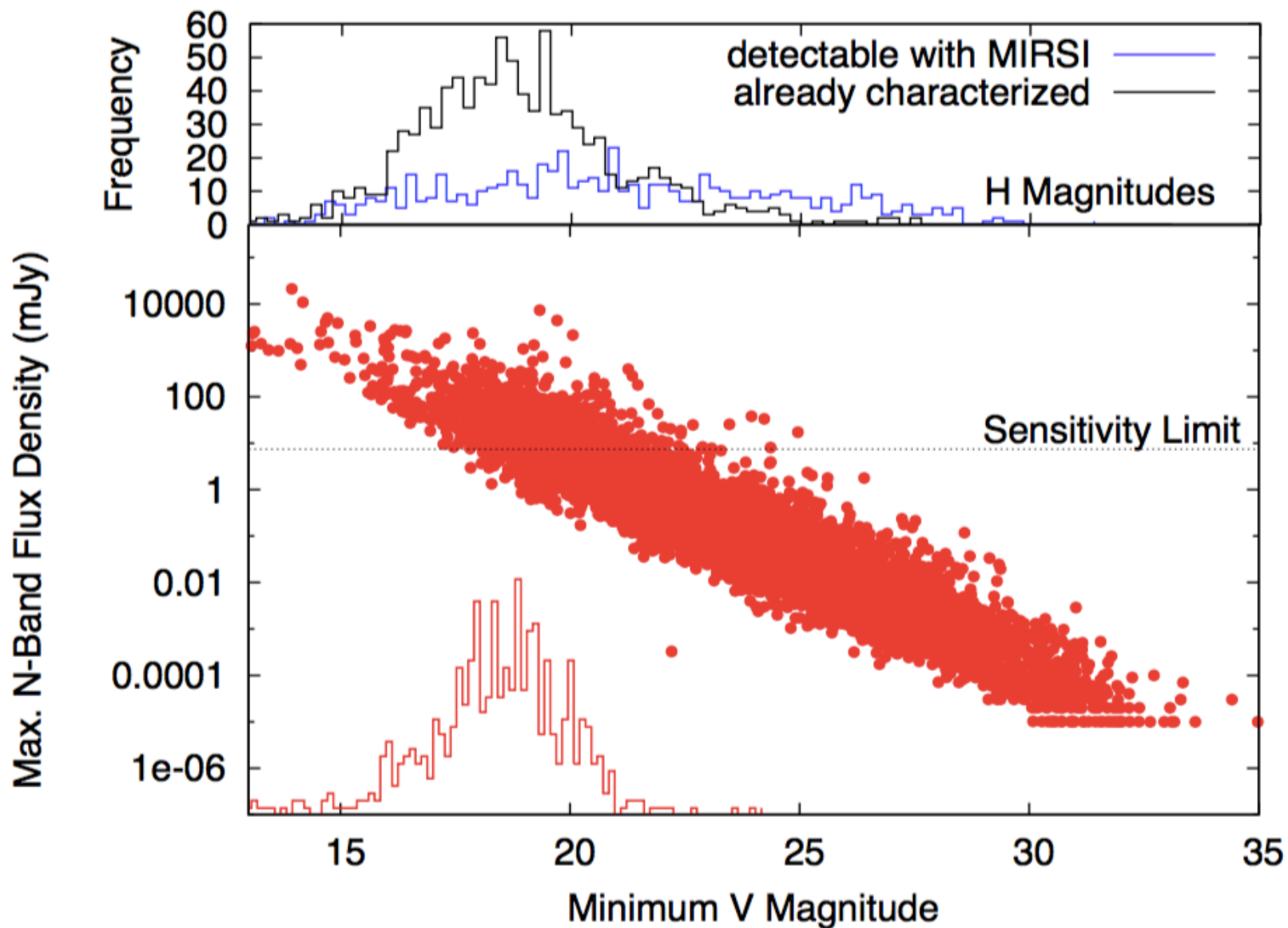


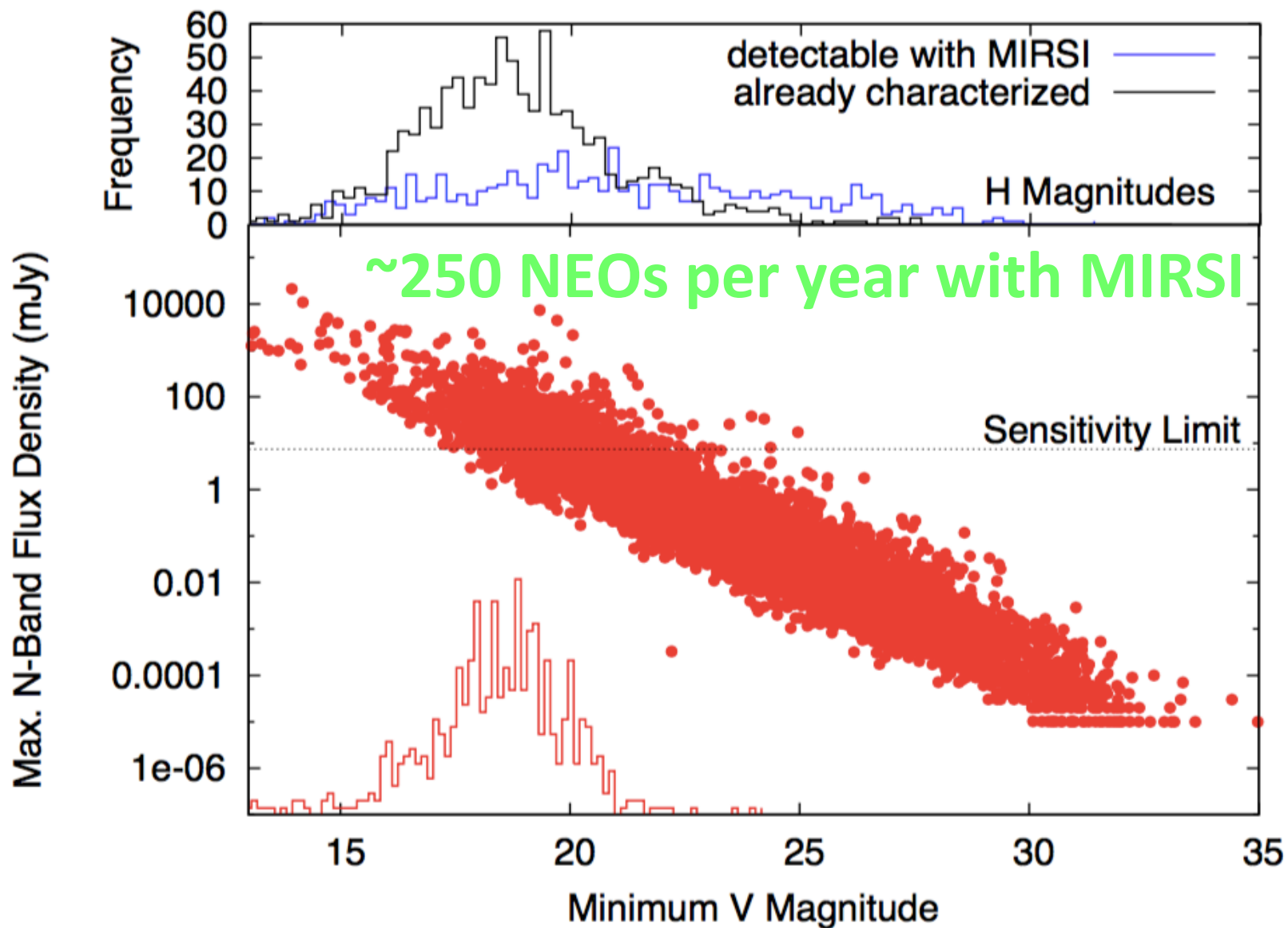
Generic NEOs
Observe at 10 μm
for diameter



Generic NEOs
Observe at 10 μm
for diameter
Need optical for
albedo







MIRSI operations

- Simultaneous optical imaging
- Fractional nights possible
- Ideal cadence is few hours every few nights
- Outstanding issue: MIRSI sensitivity (probably better than before, but ...?)

Science yield

- 250 NEOs/year
- Diameters and albedos for small (<300 m) NEOs
- Measure size distribution
- Measure albedo (composition) distribution