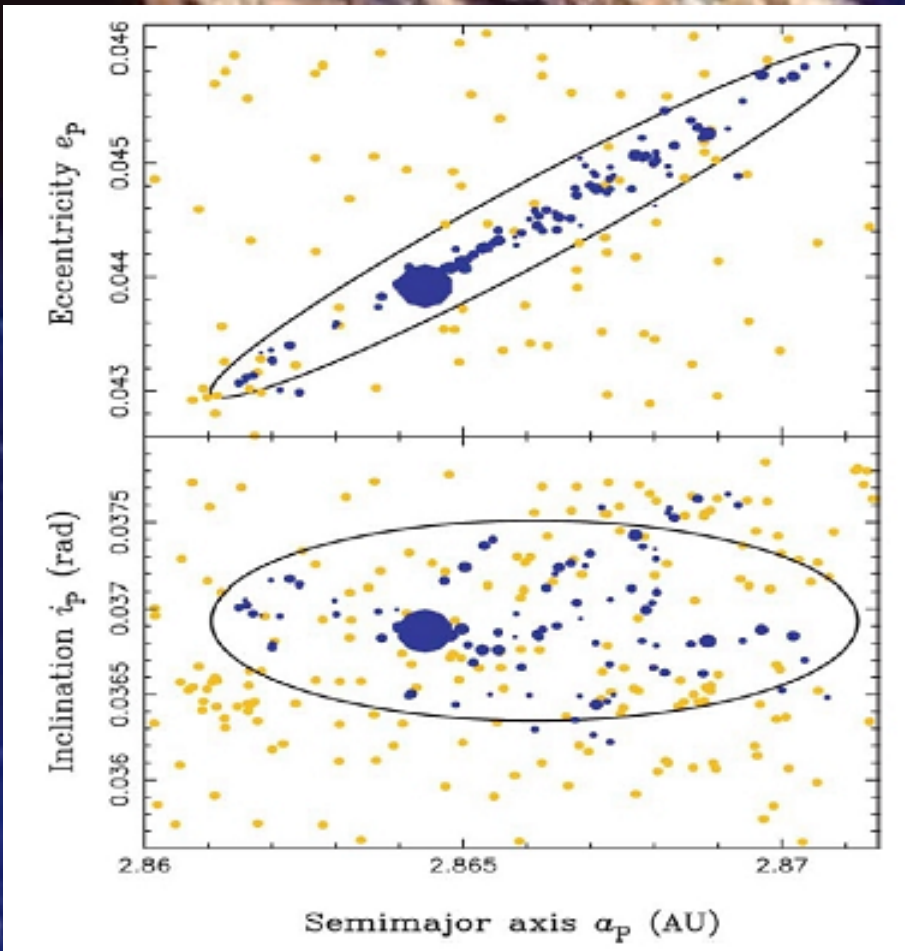




Spectroscopic characterization of the Karin family

**M. Fulchignoni, P. Vernazza, M. Birlan, E. Dotto,
A. Rossi, S. Fornasier, F. Marzari and D. Nesvorny**



Karin cluster:

- 90 members
- one large object (13 km)
- small objects ranging 1 to 7 km in size
- parent body $\Phi \sim 30$ km
- orbital elements spread explained by Yarkovsky effect + Ceres perturbations

(Nesvorny & Bottke, *Icarus*, 170, 2004)

OBSERVATIONS

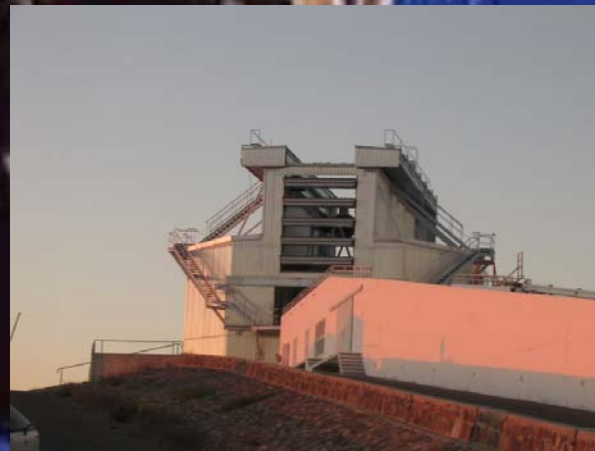
CFHT

ESO-NTT

IRTF



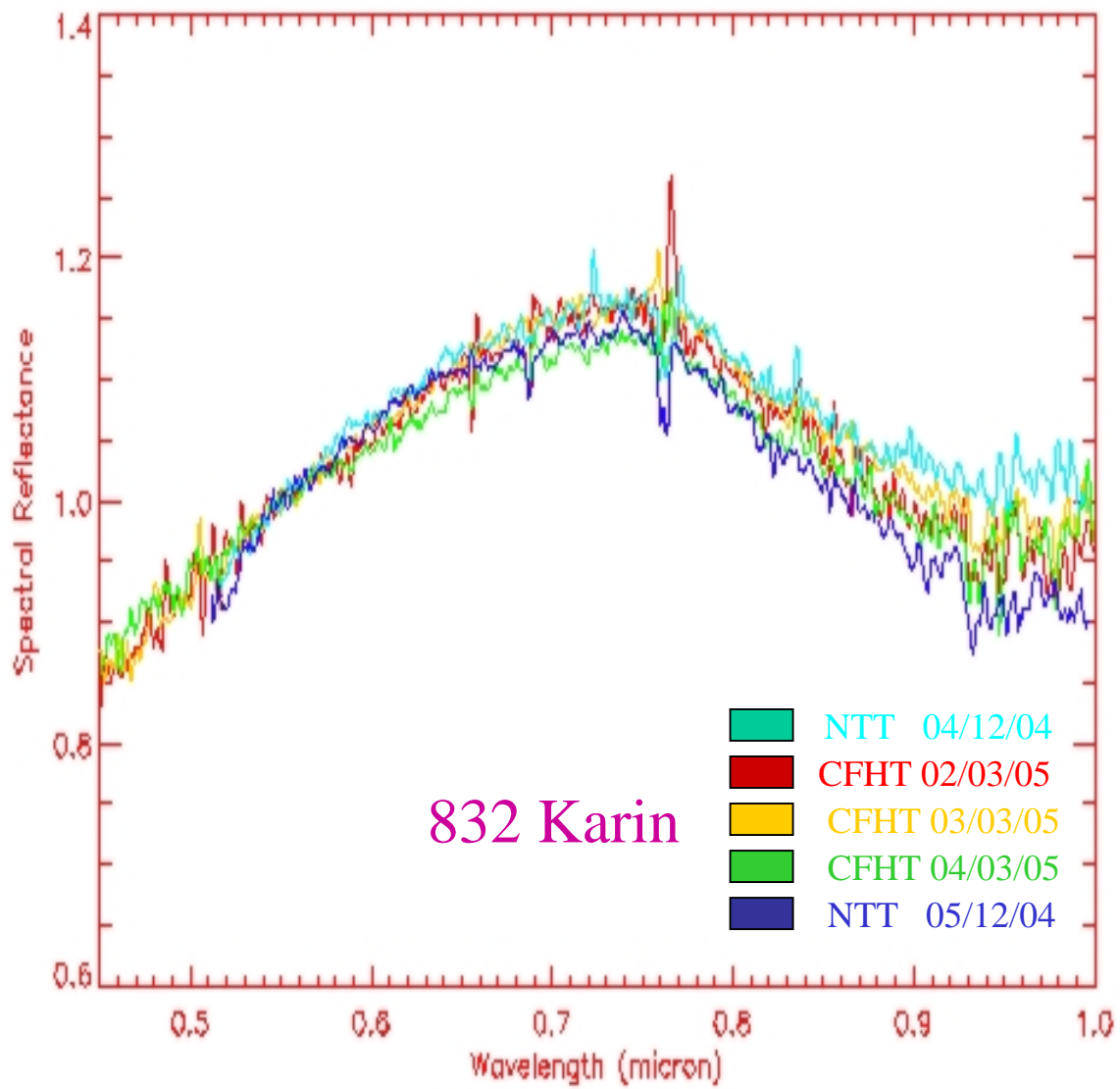
MOS

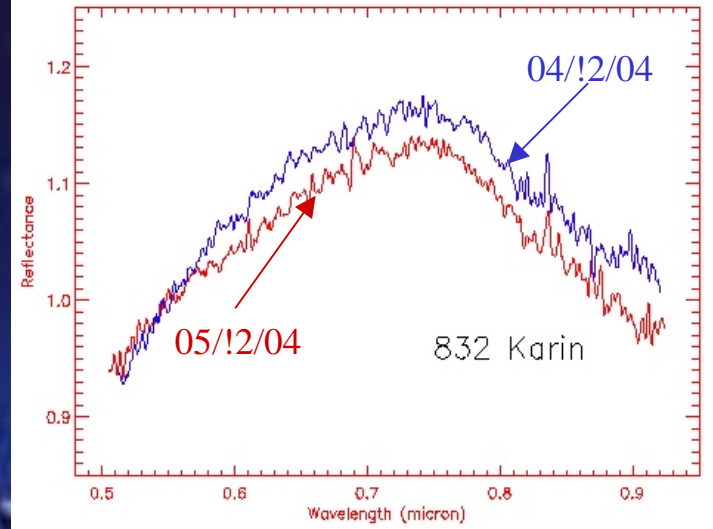
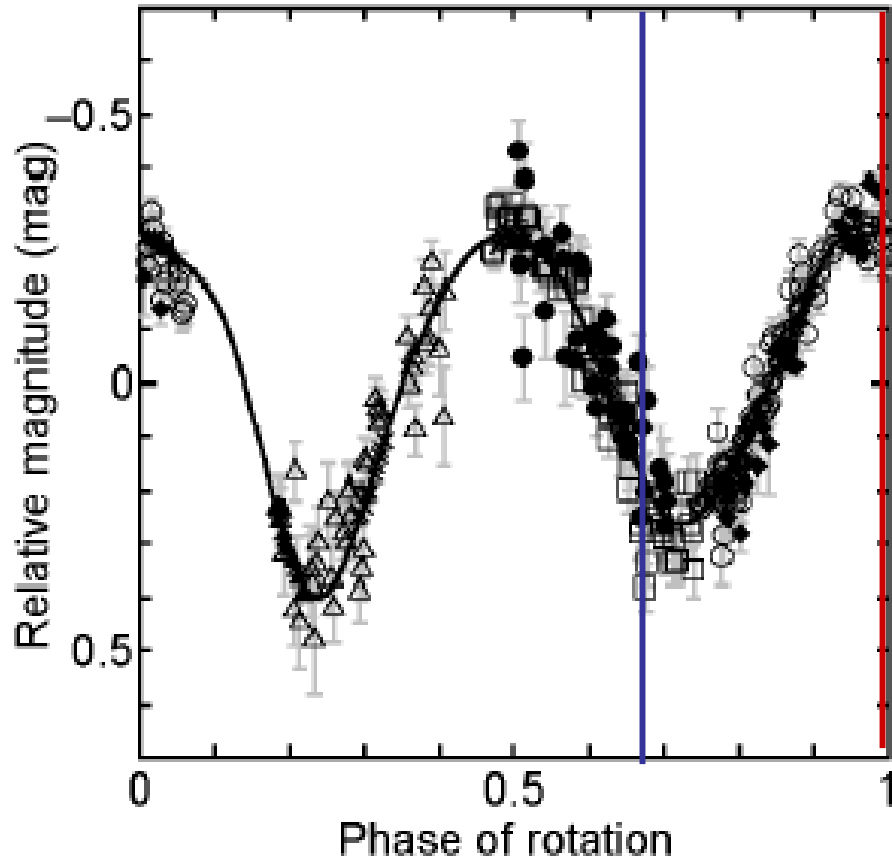


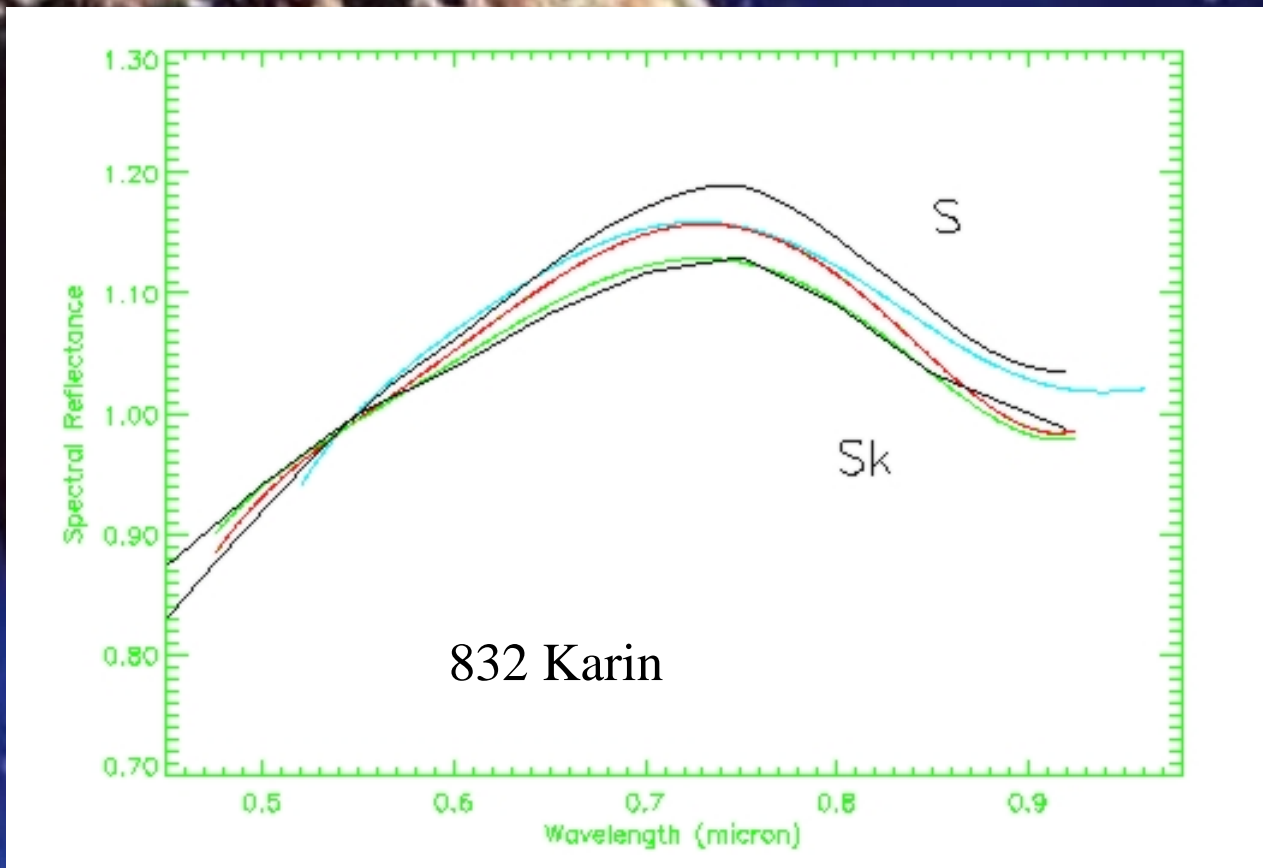
EMMI

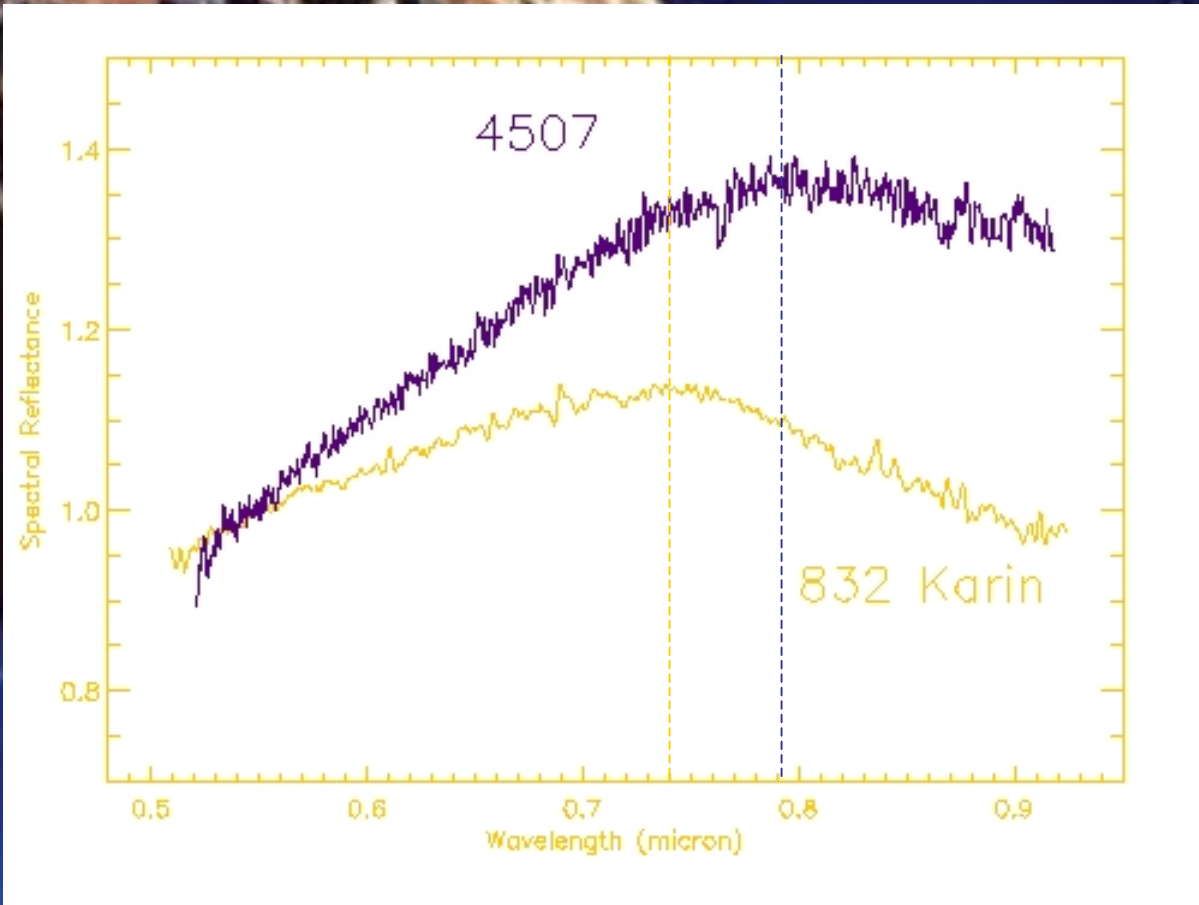


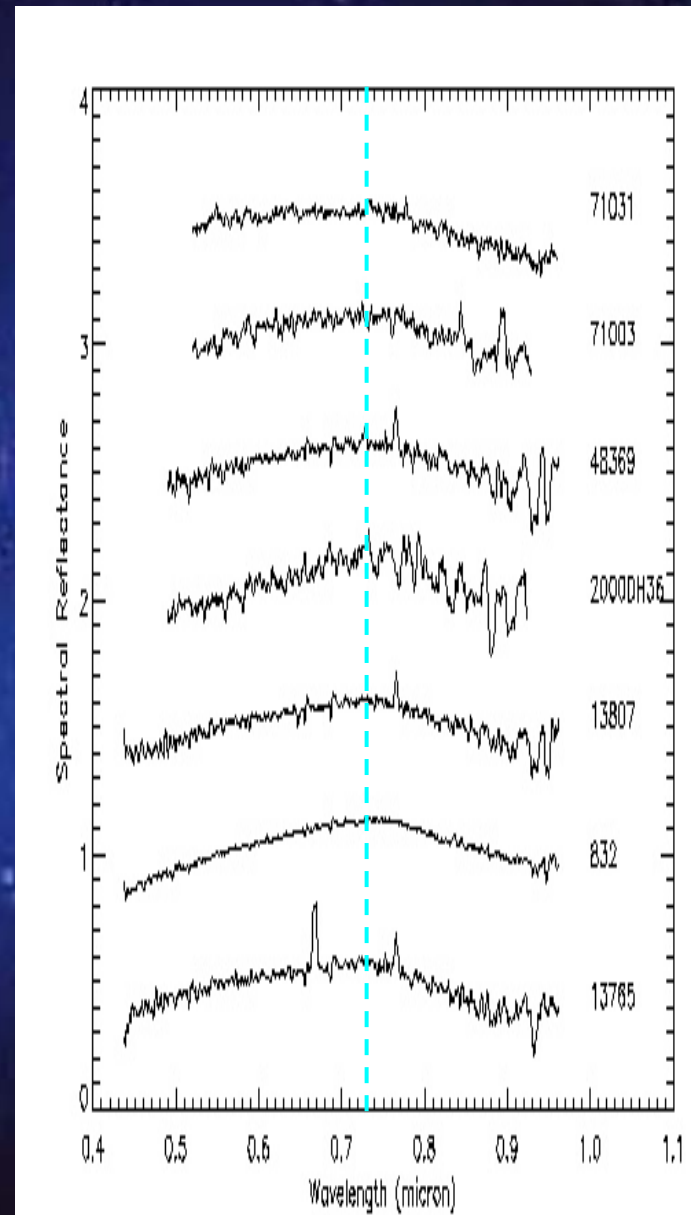
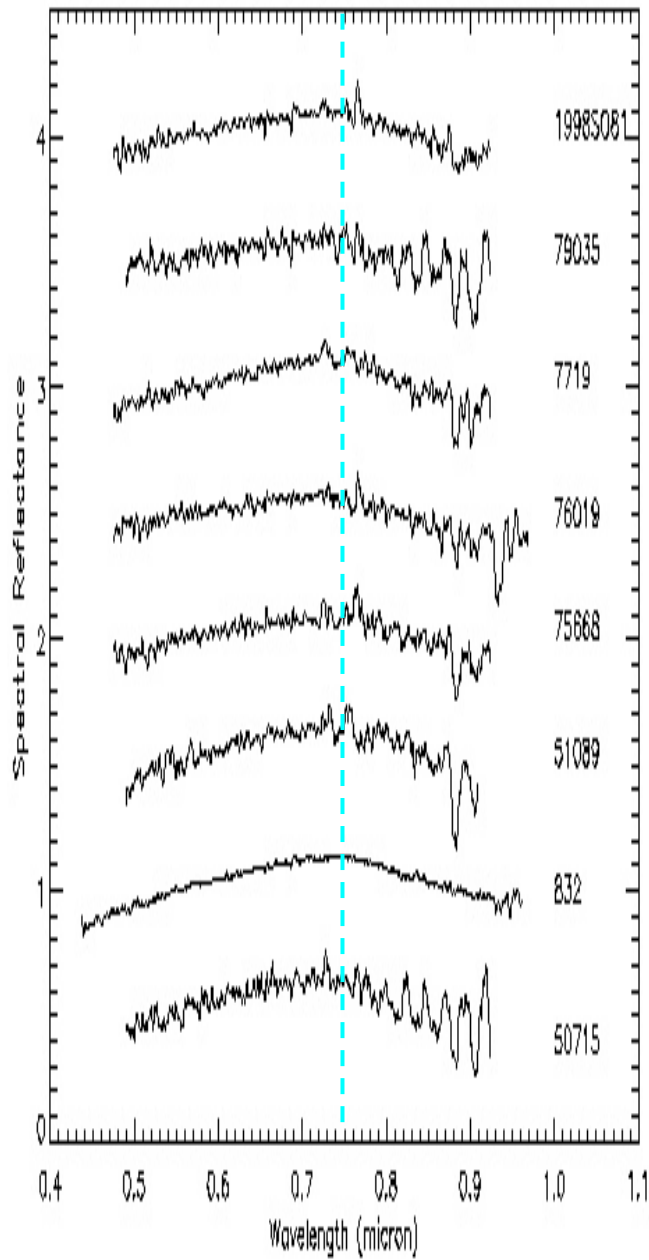
SpeX

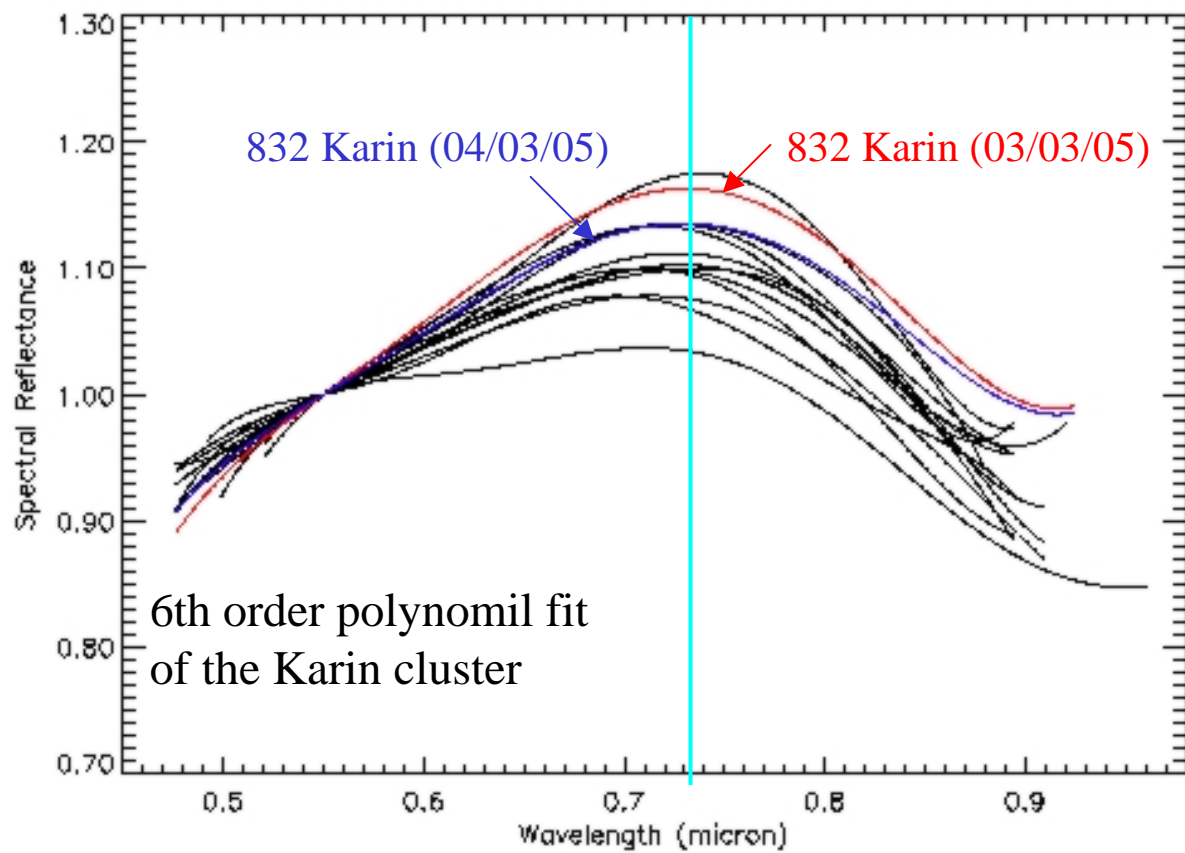


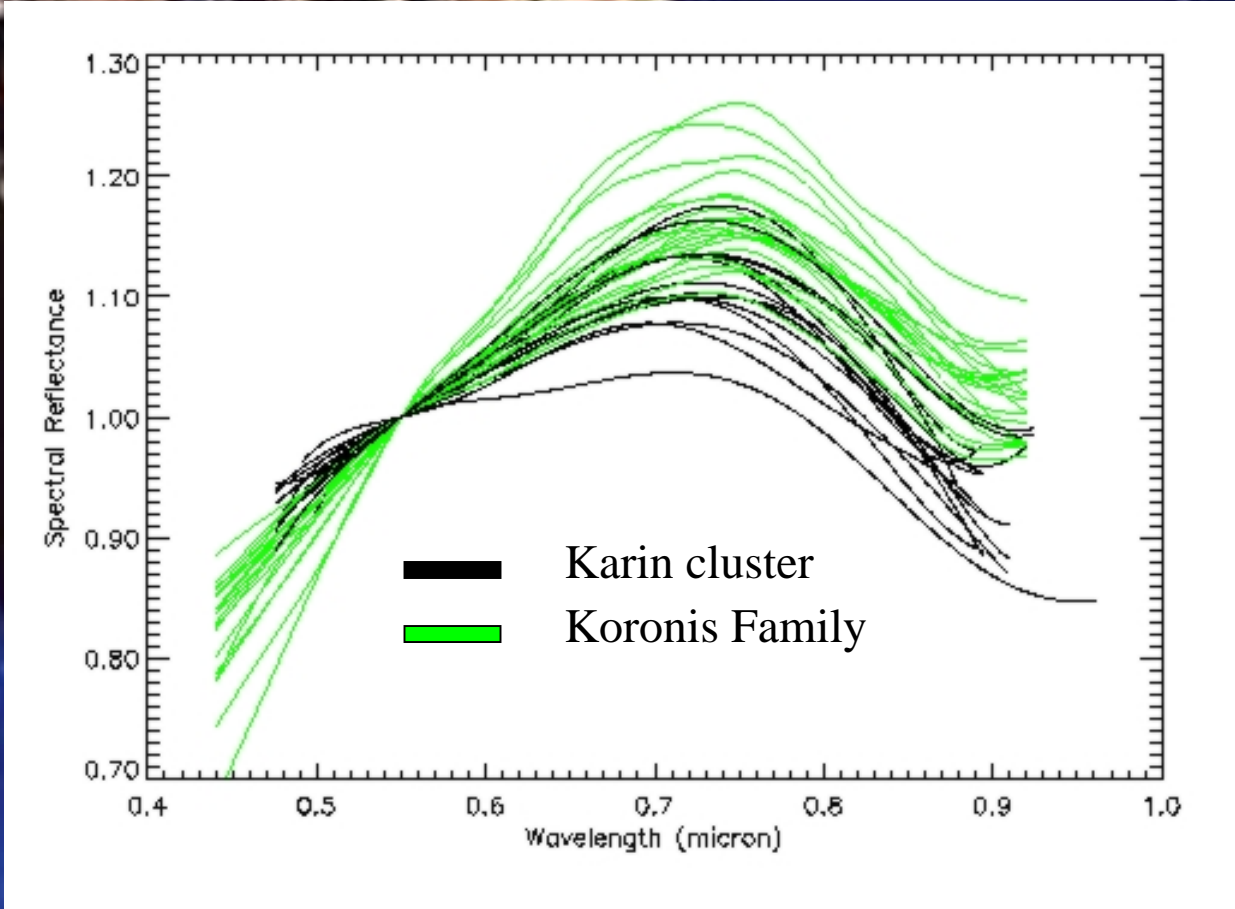


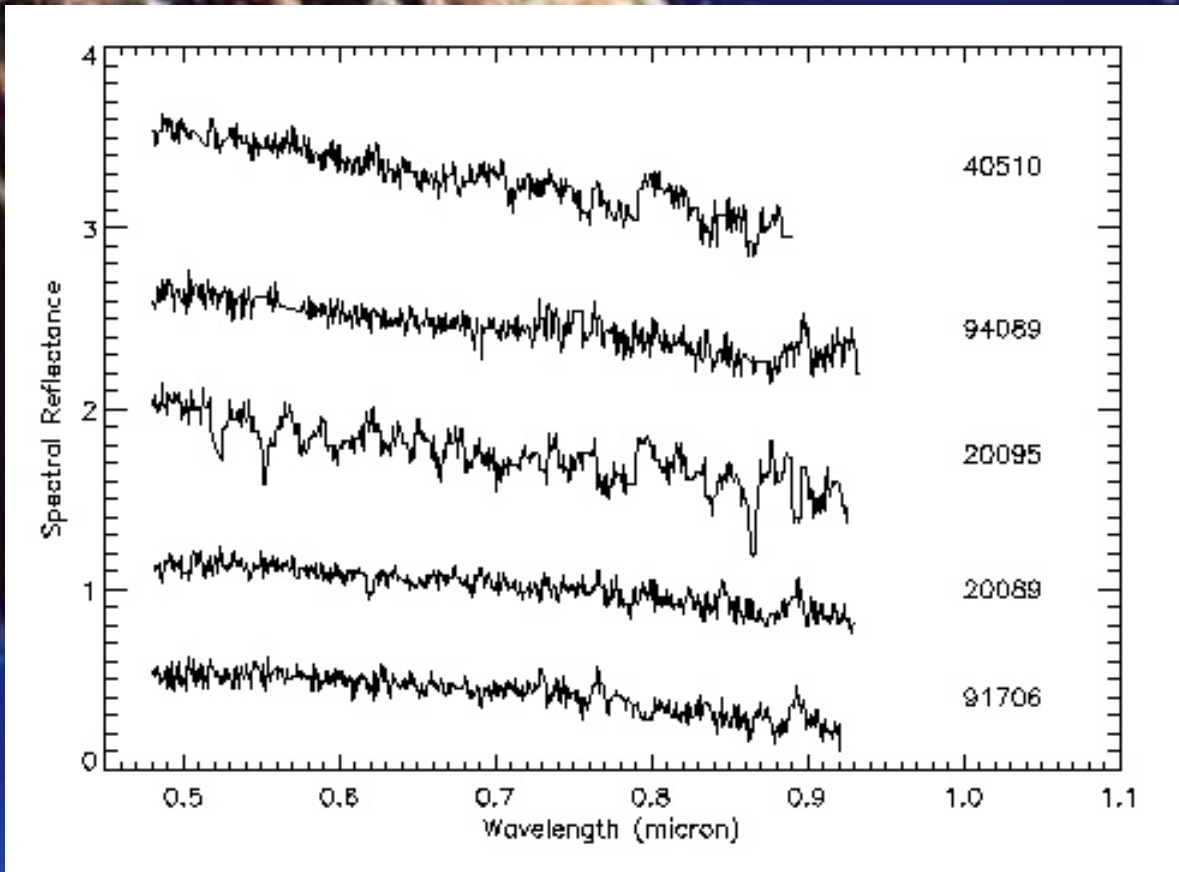


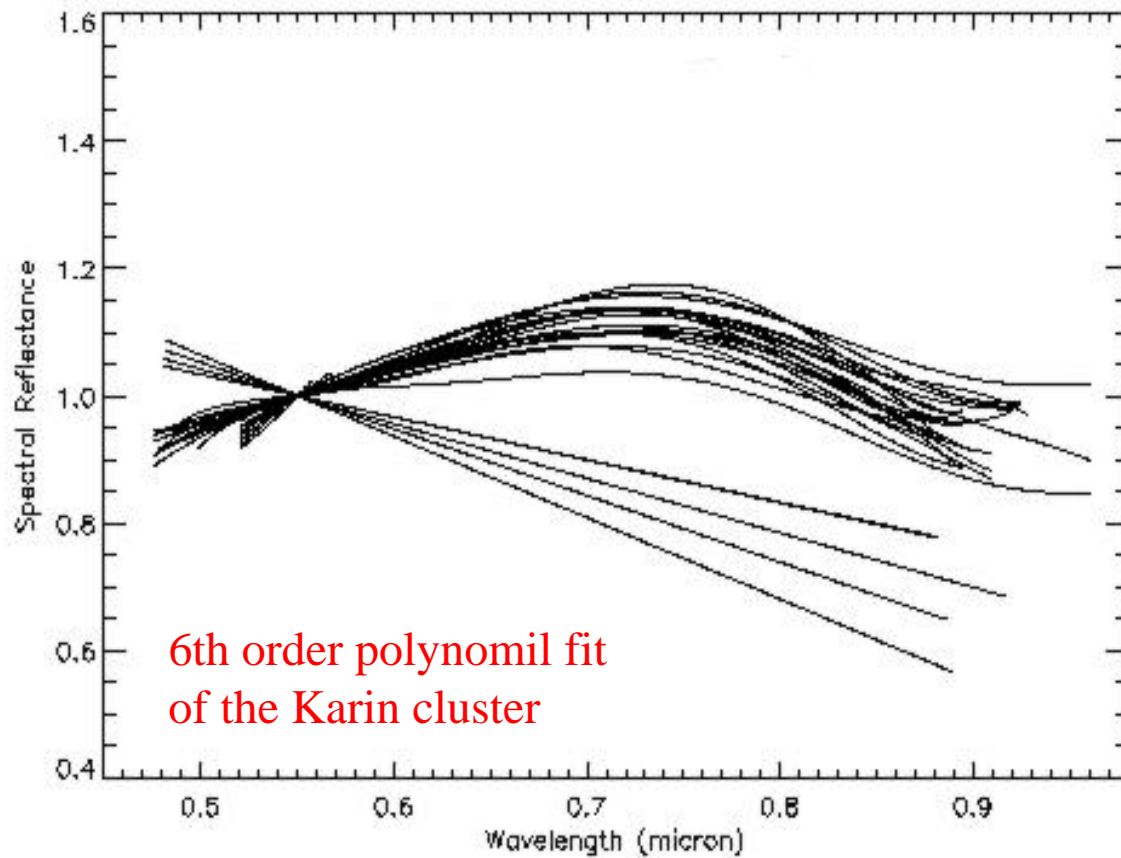


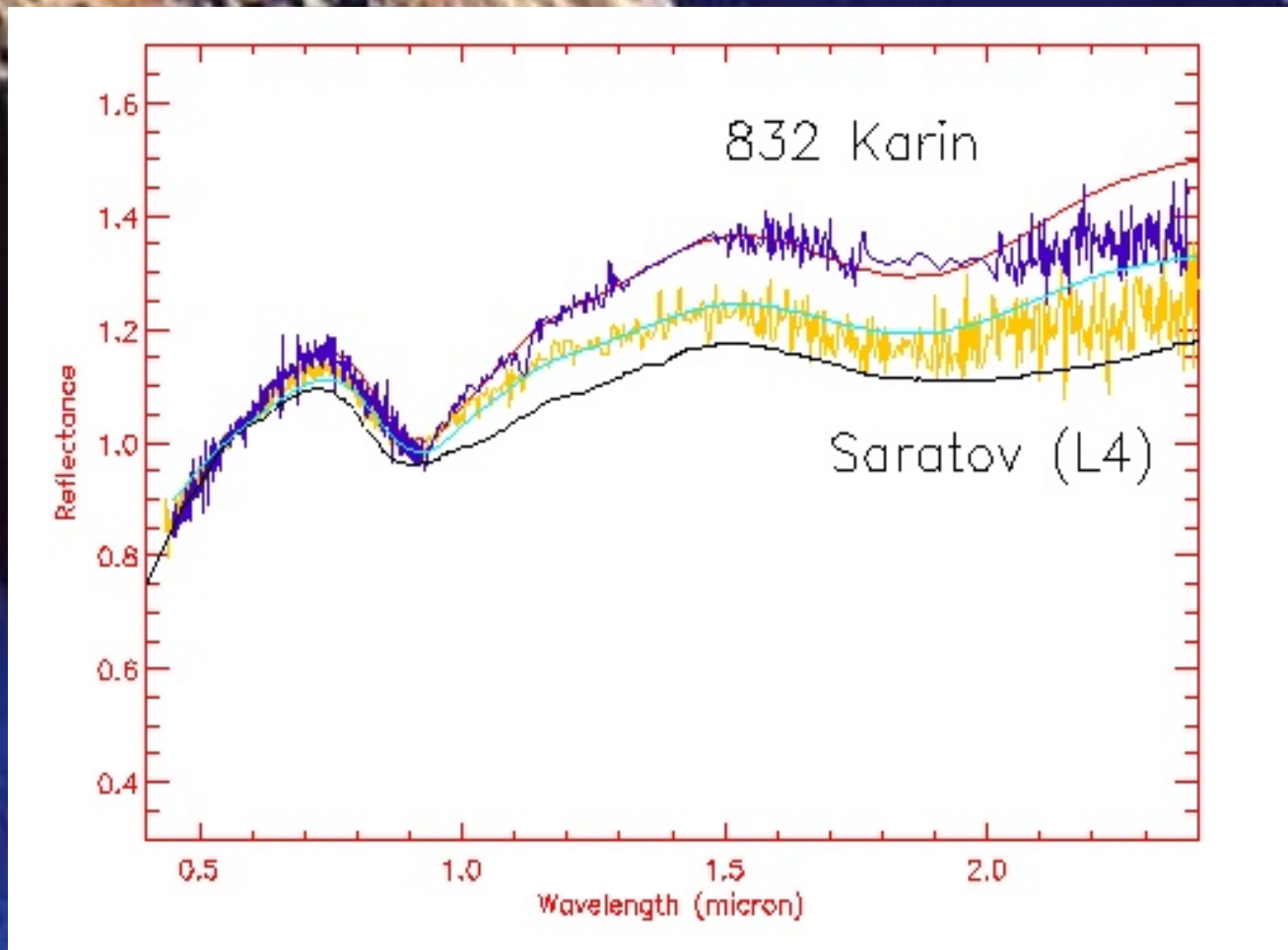












Conclusions:

1. The analysis of the visible spectra of the Karin cluster members suggest a wide homogeneity and different colours than those of the Koronis members.
2. The surfaces of the Karin members seem “younger” than those of the Koronis family.
3. 5 objects are spectrally incompatible with the whole set of object observed.
4. Two different spectral slopes for 832 Karin spectra suggest older and younger surfaces (space weathering).
5. The modelling of the spectra of 832 Karin suggest a composition close to L/LL chondrites.

