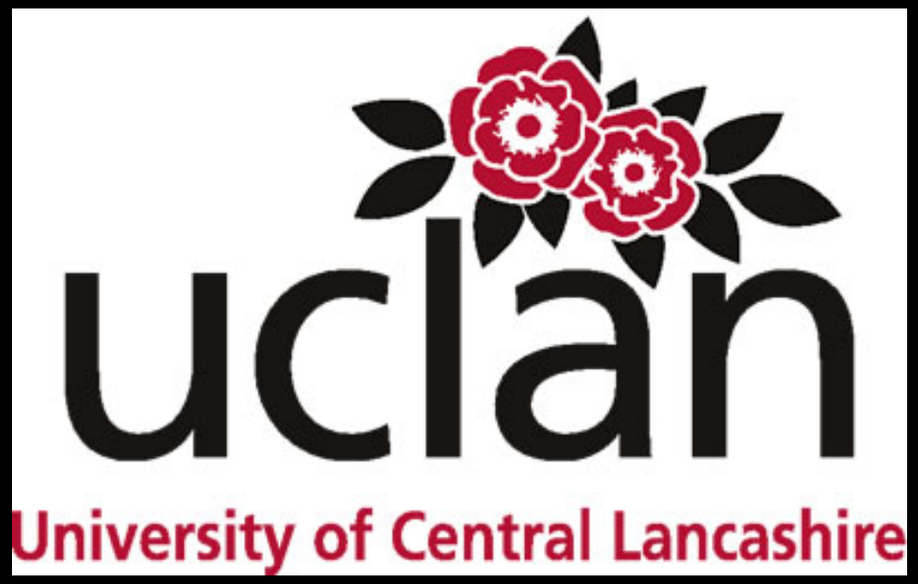
Jeremiah Horrocks Institute



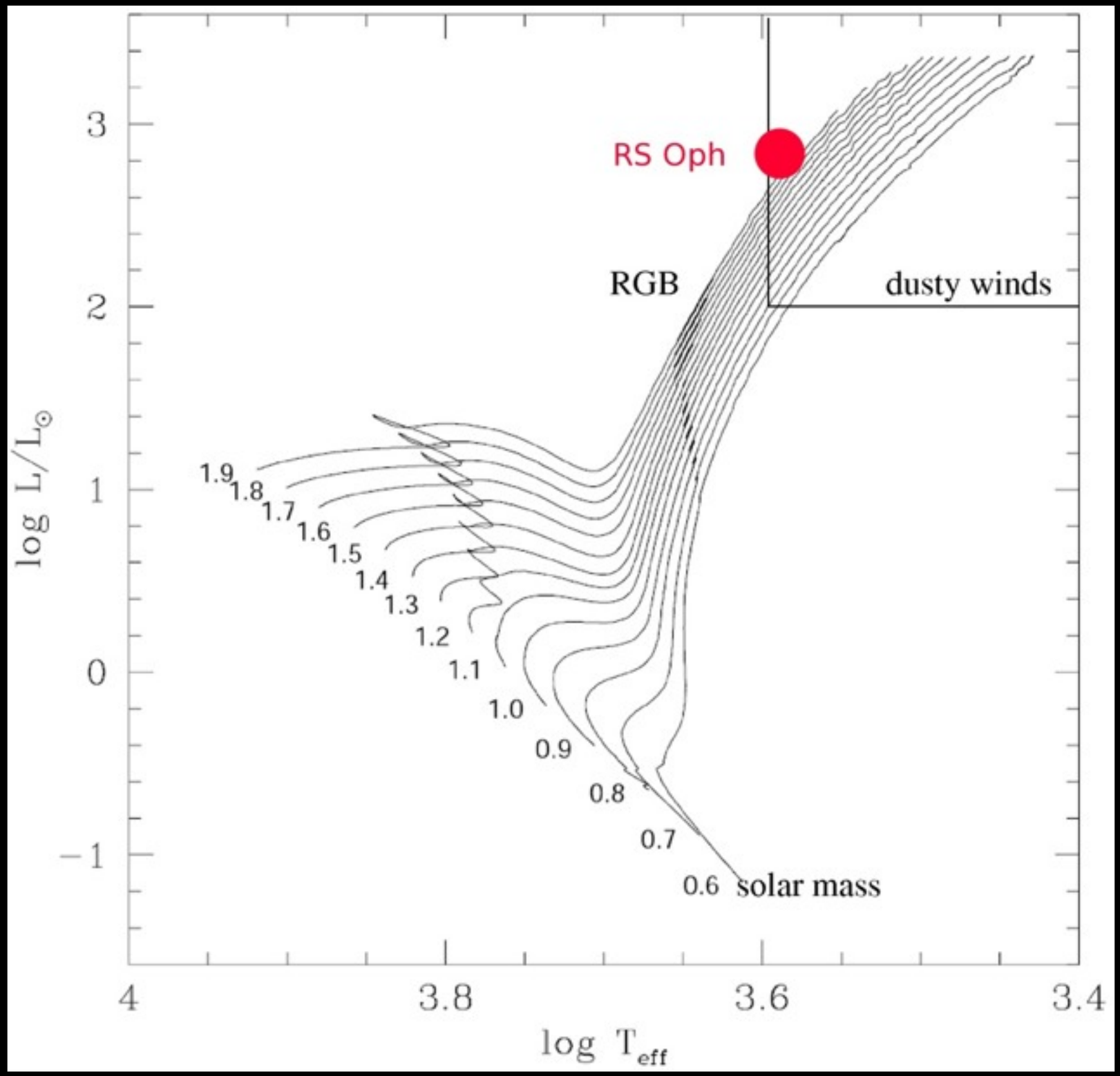
Silicate dust in RS Ophiuchi

M. T. Rushton (UClan),
C. E. Woodward, R. D. Gehrz (Minnesota),
L. A. Helton (SOFIA),
A. Evans (Keele)
Ya. V. Pavlenko, B. Kaminsky (Nat. Acad. Sci, Ukraine),

Overview

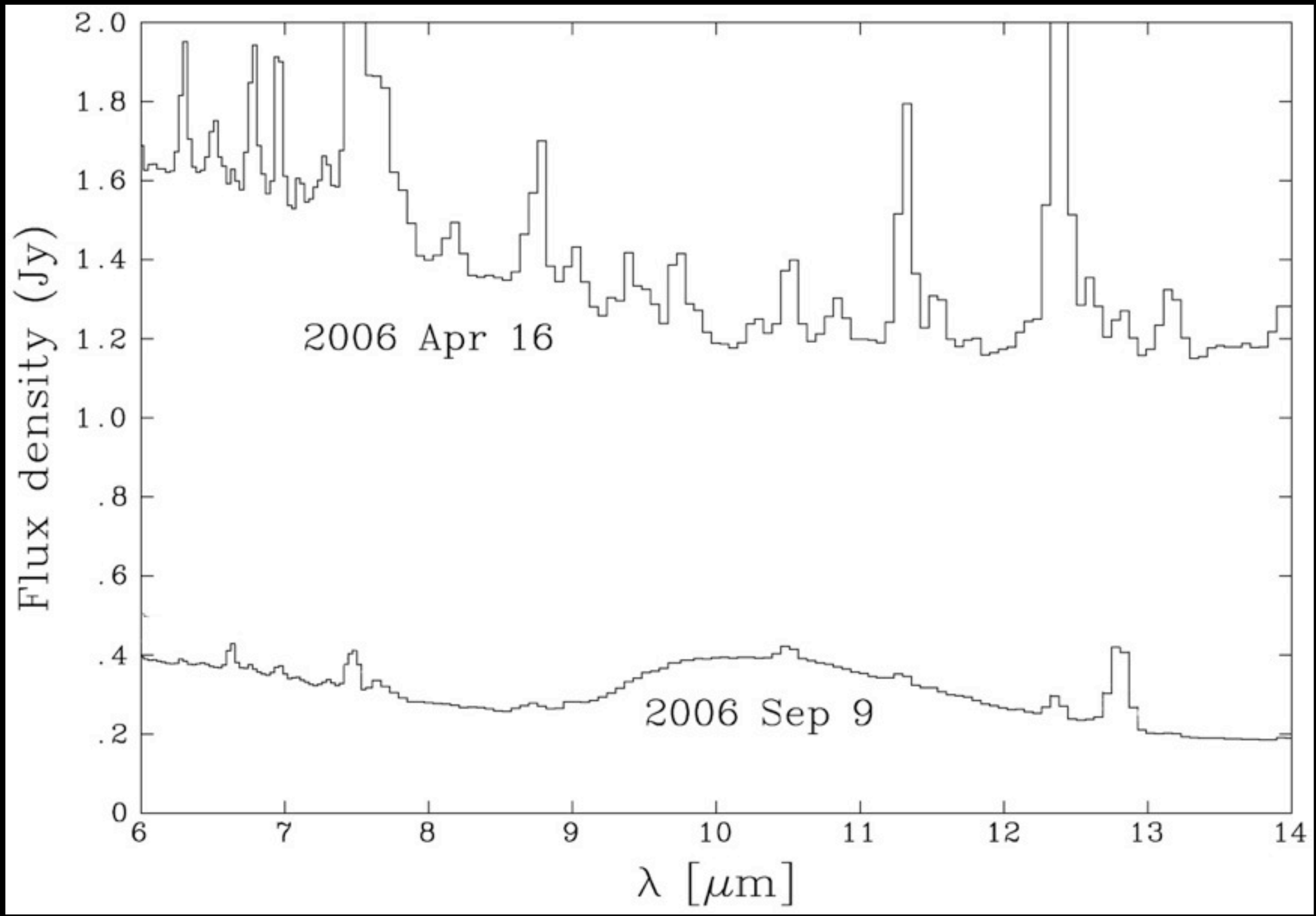
- Red giant secondary
- K5-M0 (Anupama & Mikolajewska 1999, Dobrzycka et al. 1996, Evans et al. 1988
- 4200+/-200 K (Pavlenko et al. 2008)
- Roche lobe filling?

isolating the secondary



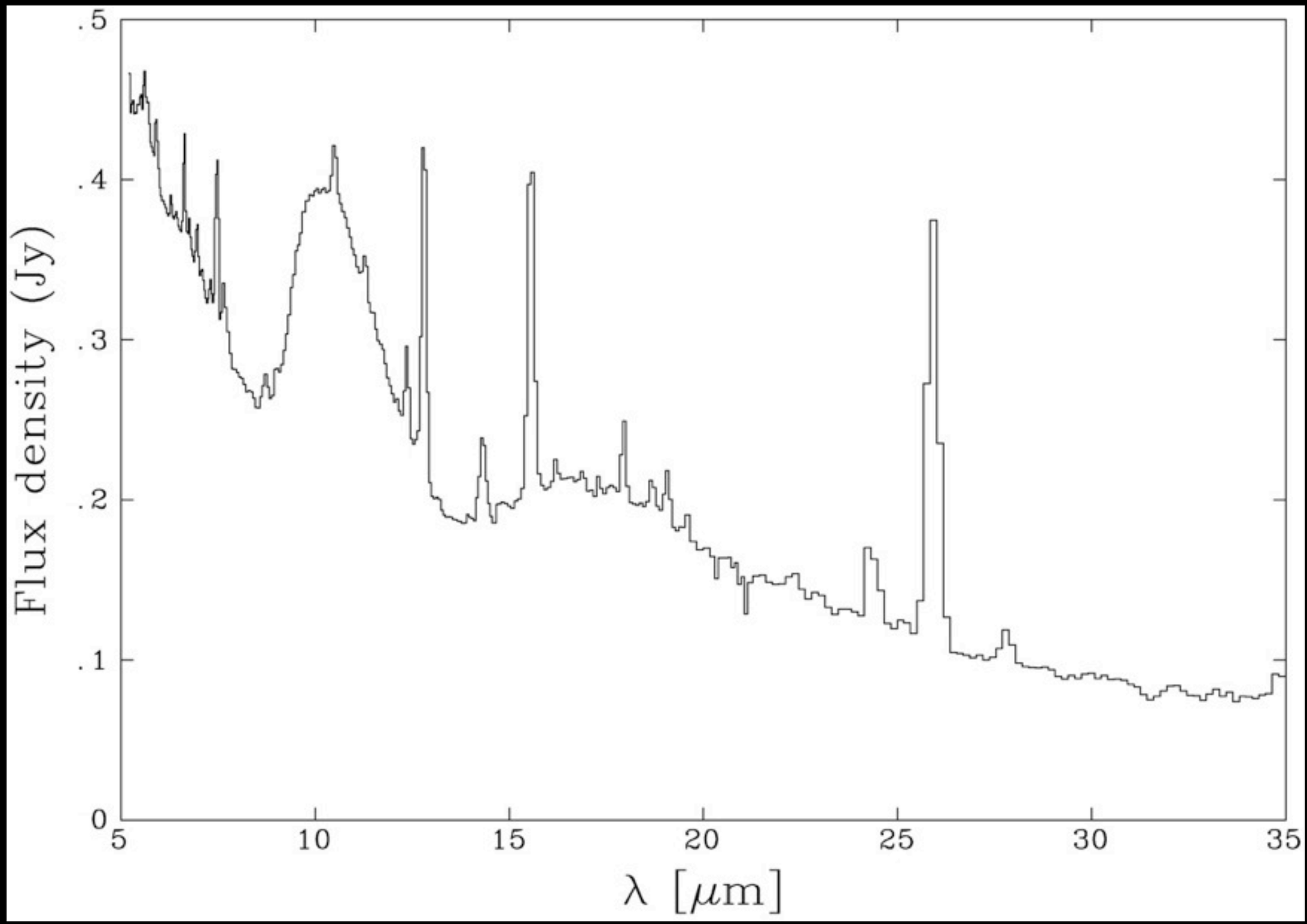
van Loon et al. 2008

excess to excess...



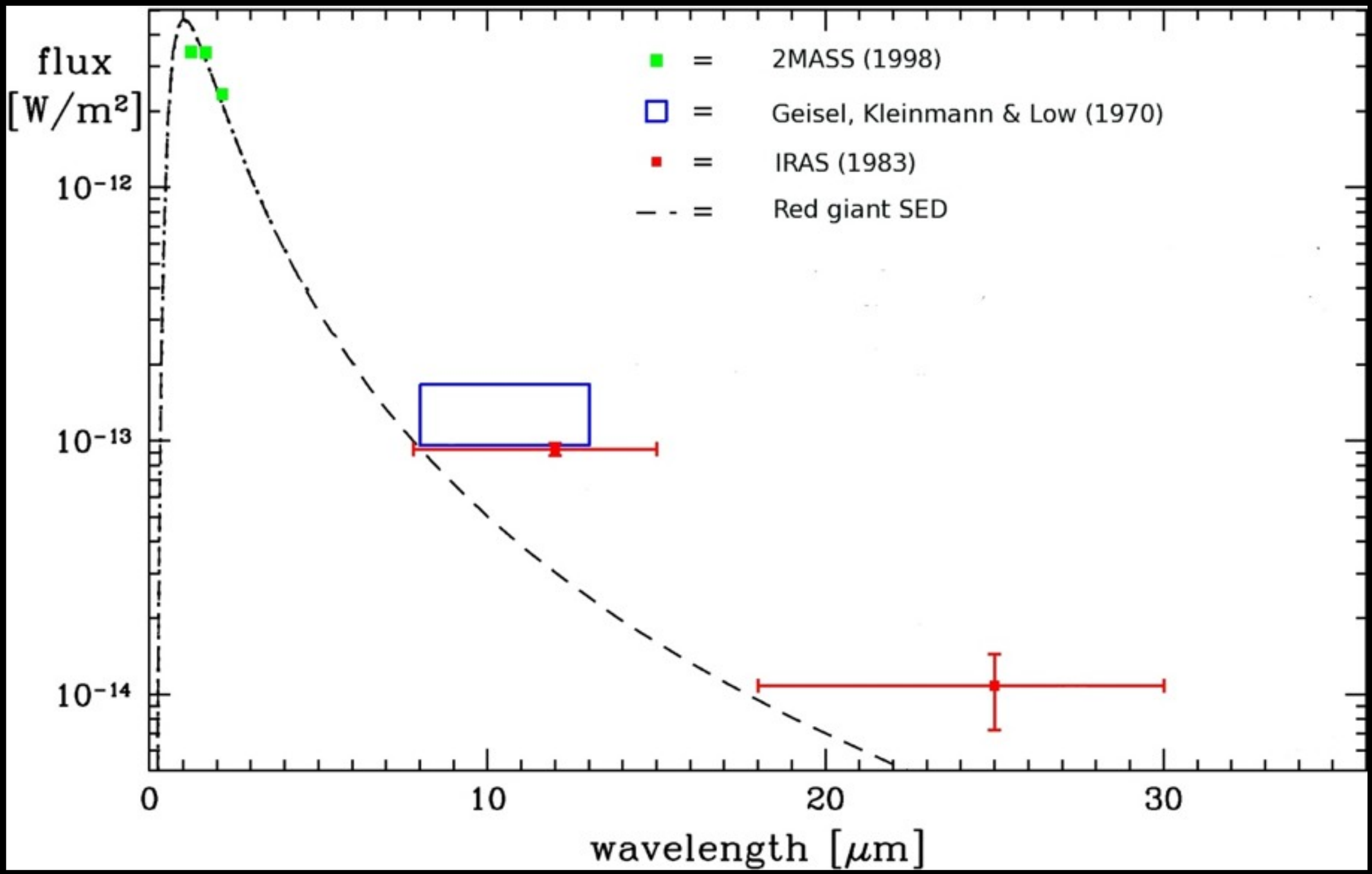
Evans et al. 2007

excess to excess...



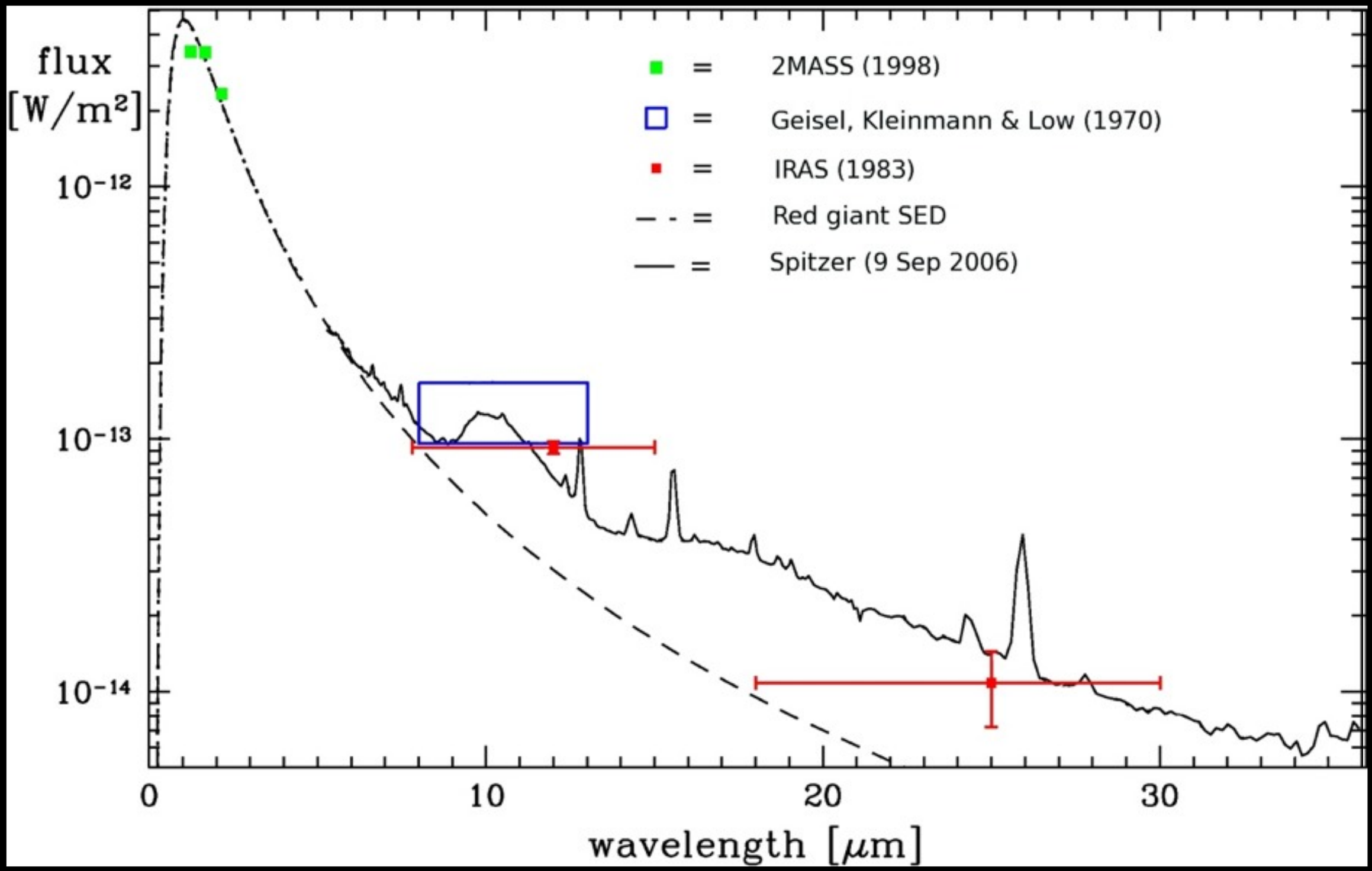
Evans et al. 2007

past (1970 & 83) and present (2006-09)



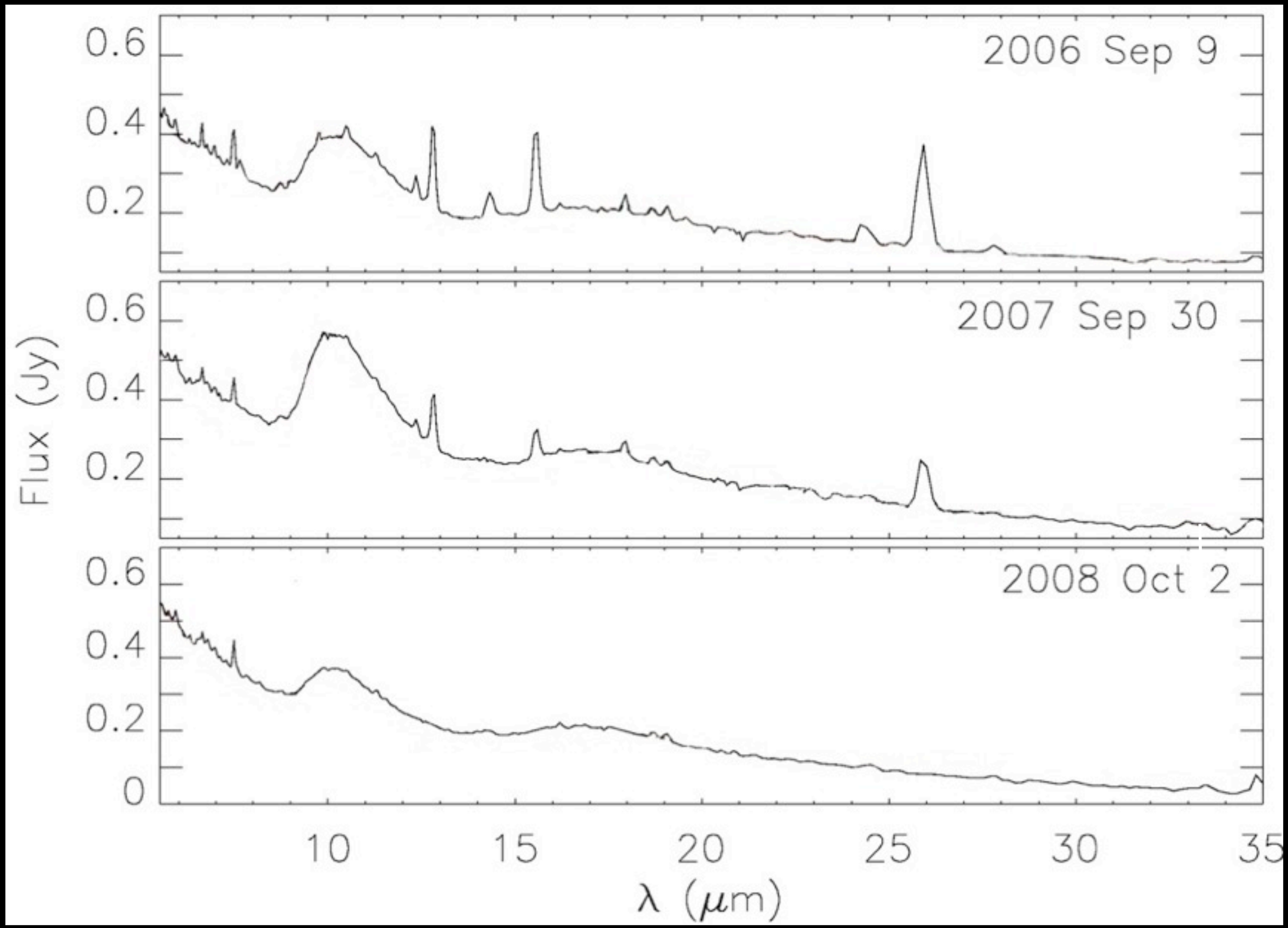
Evans et al. 2008

past (1970 & 83) and present (2006-09)

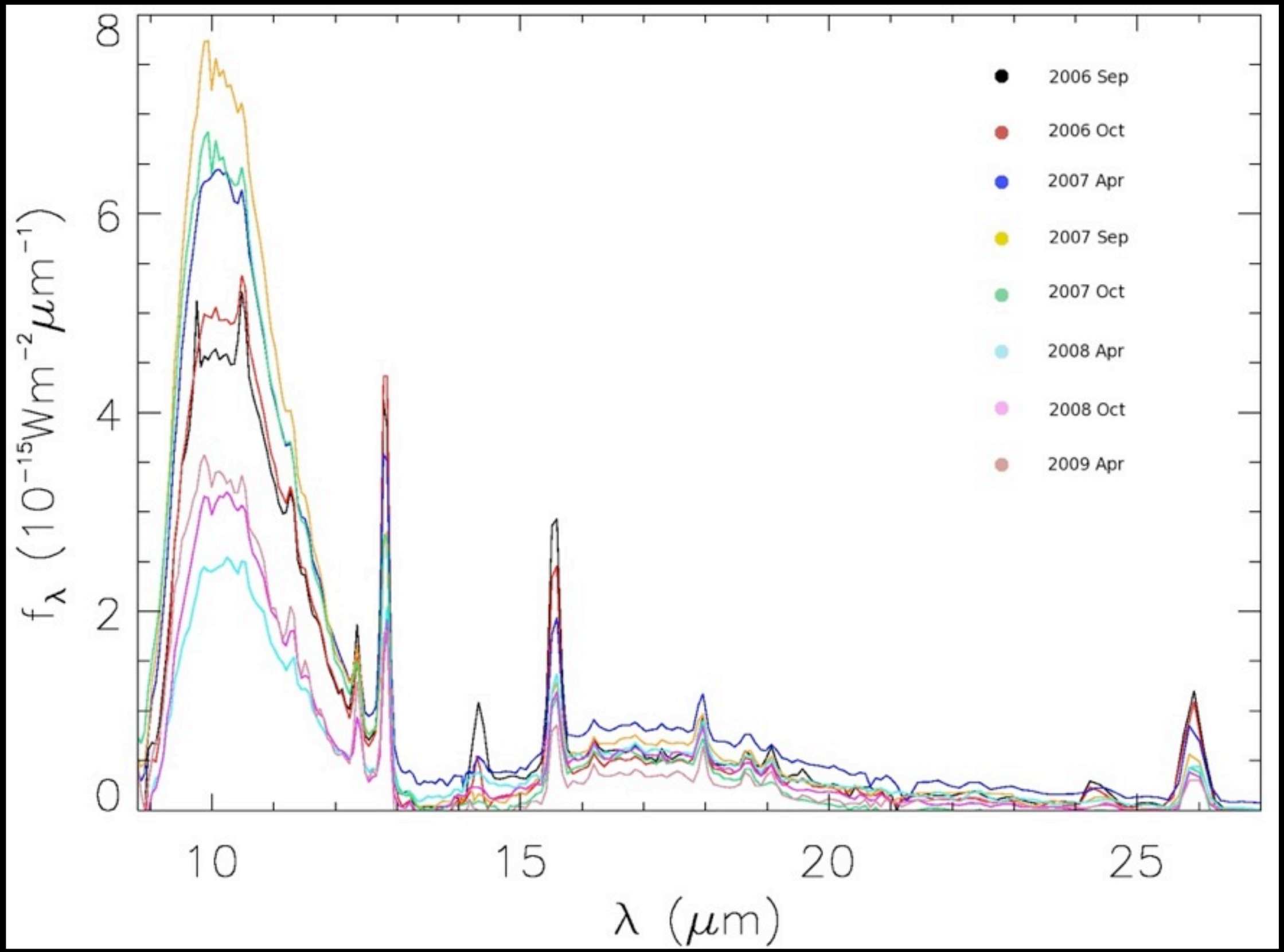


Evans et al. 2008

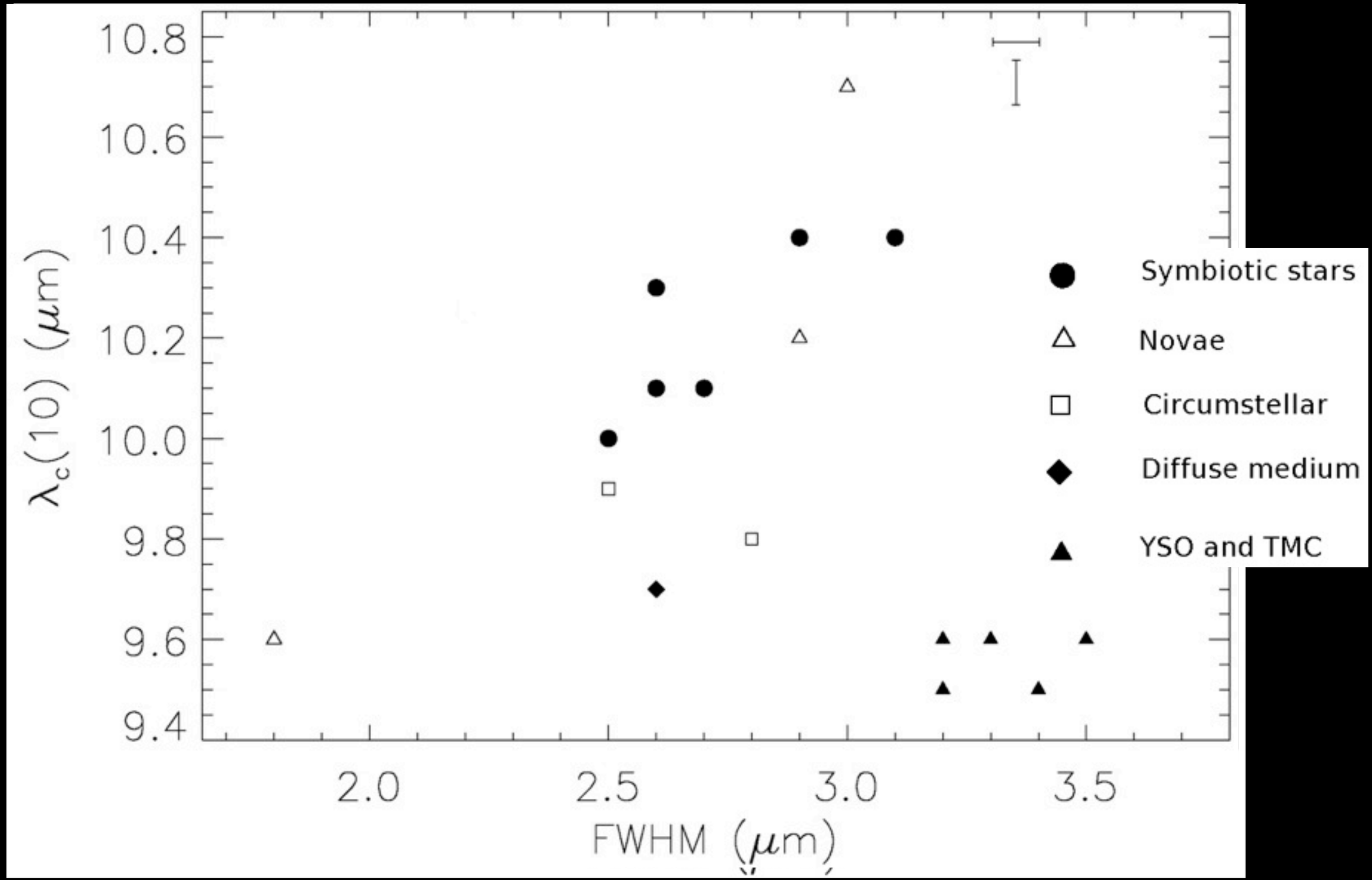
the rise and fall of silicate dust in RS Oph



the rise and fall of silicate dust in RS Oph

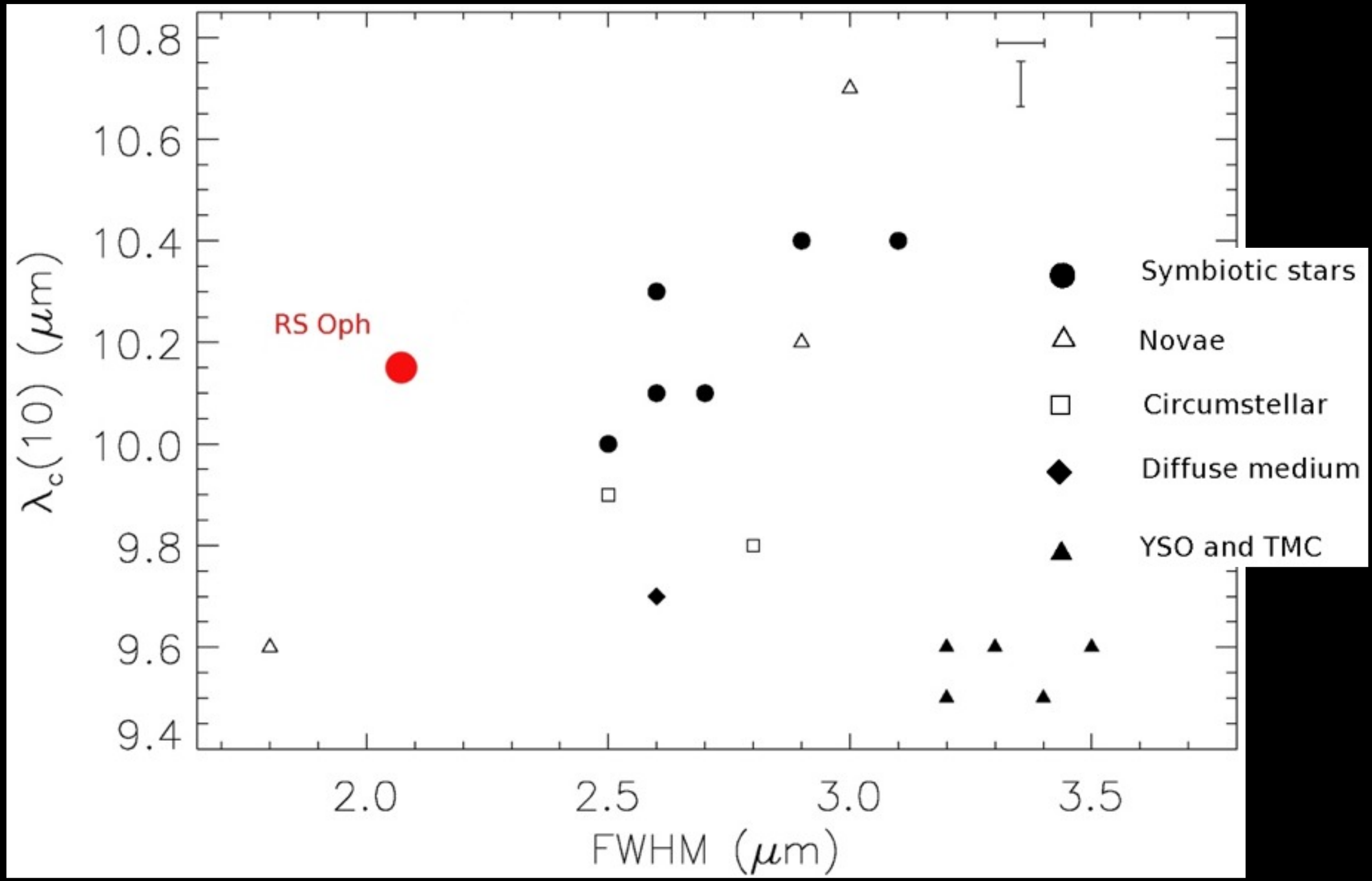


wavelengths and widths



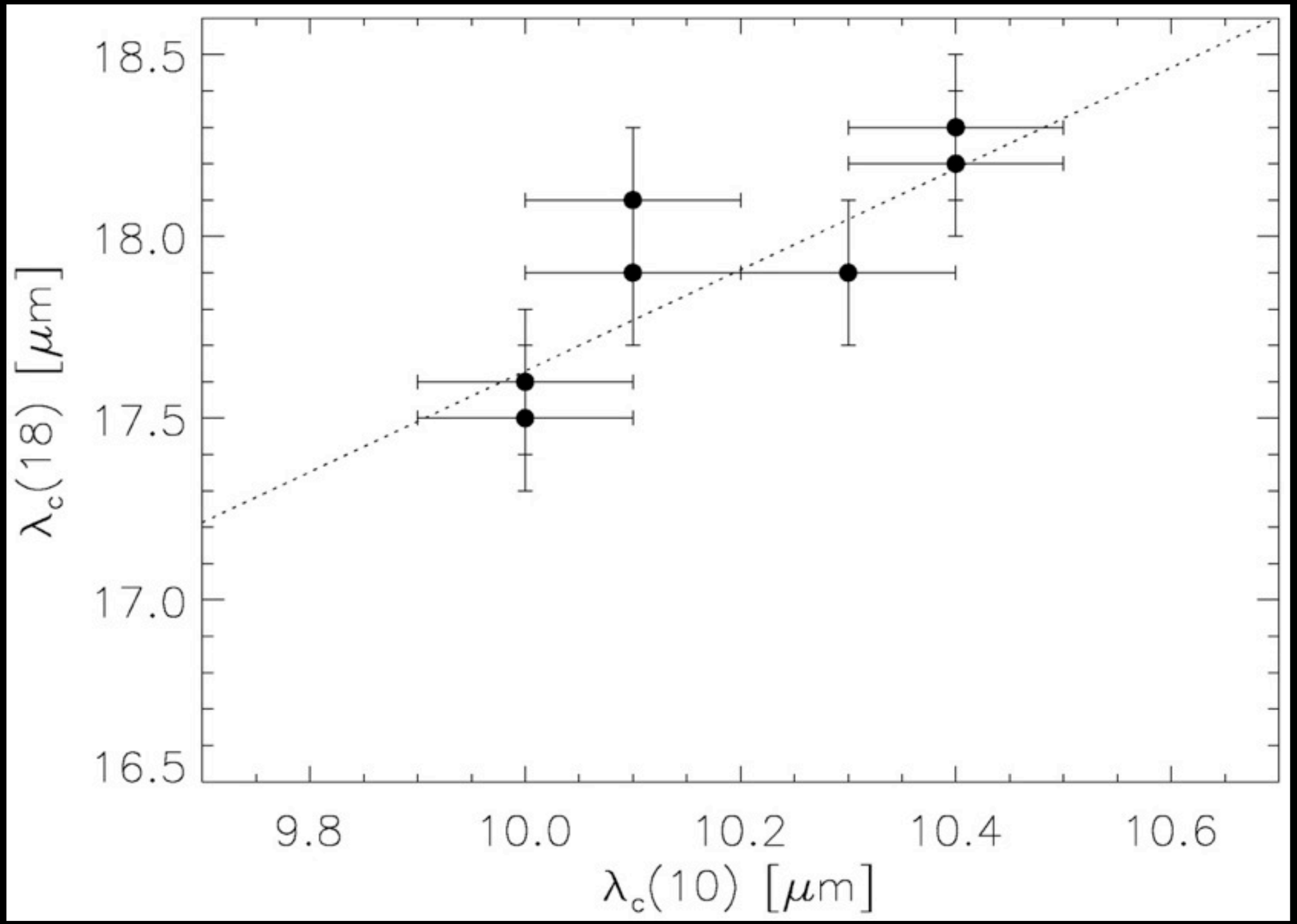
Angeloni et al. 2007

wavelengths and widths



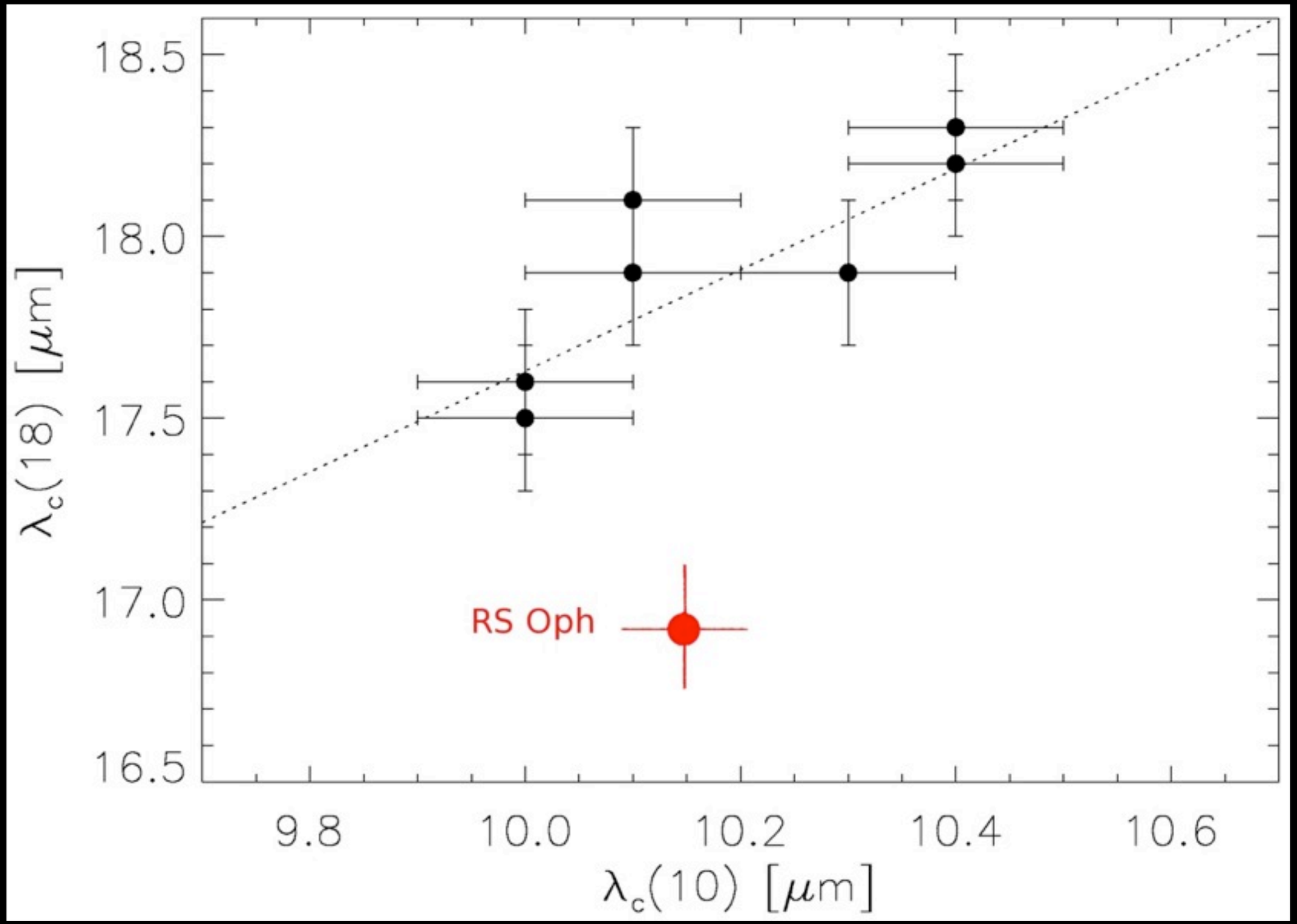
Angeloni et al. 2007

RS Oph Vs Symbiotic Stars



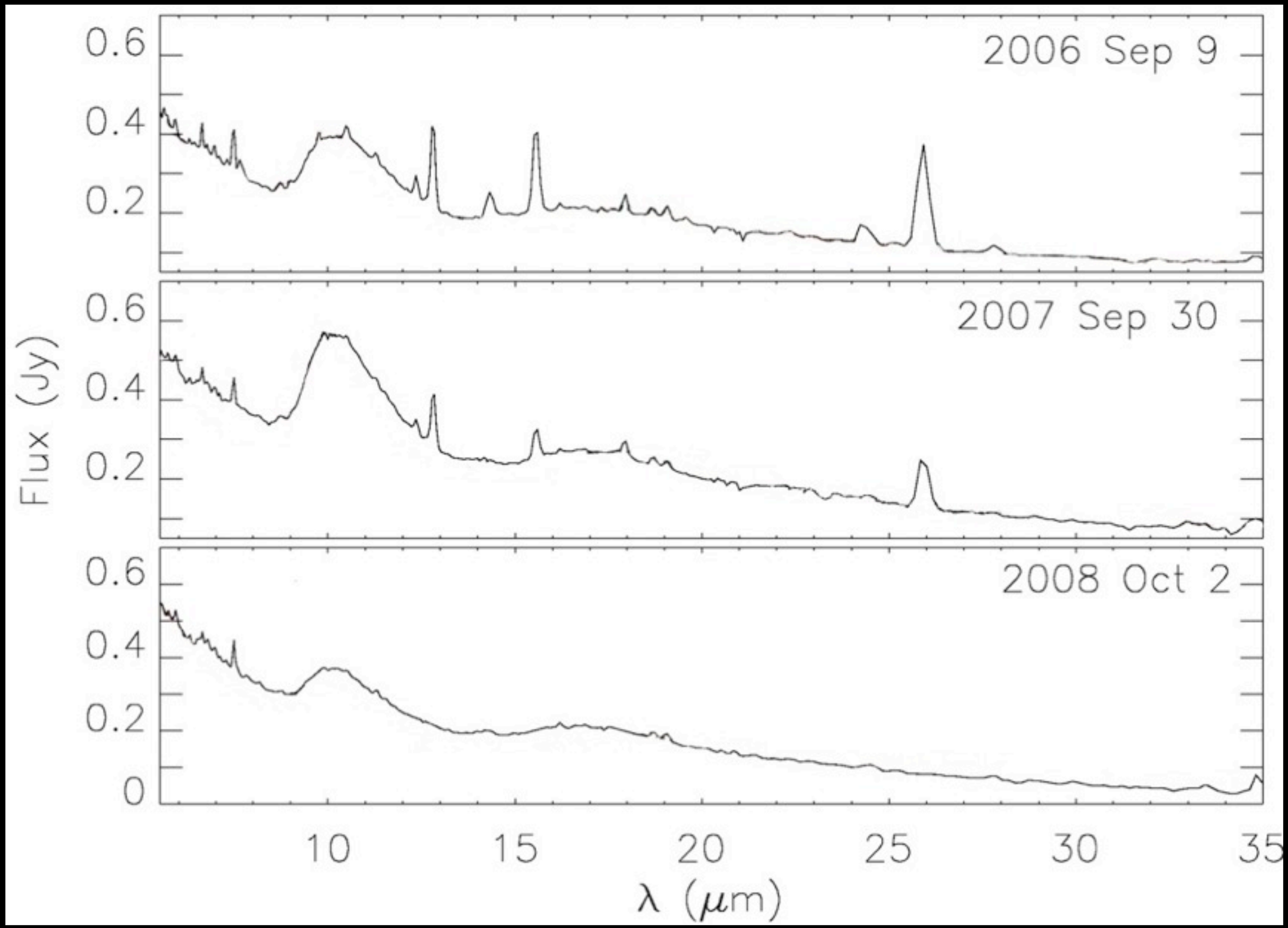
Angeloni et al. 2007

RS Oph Vs Symbiotic Stars

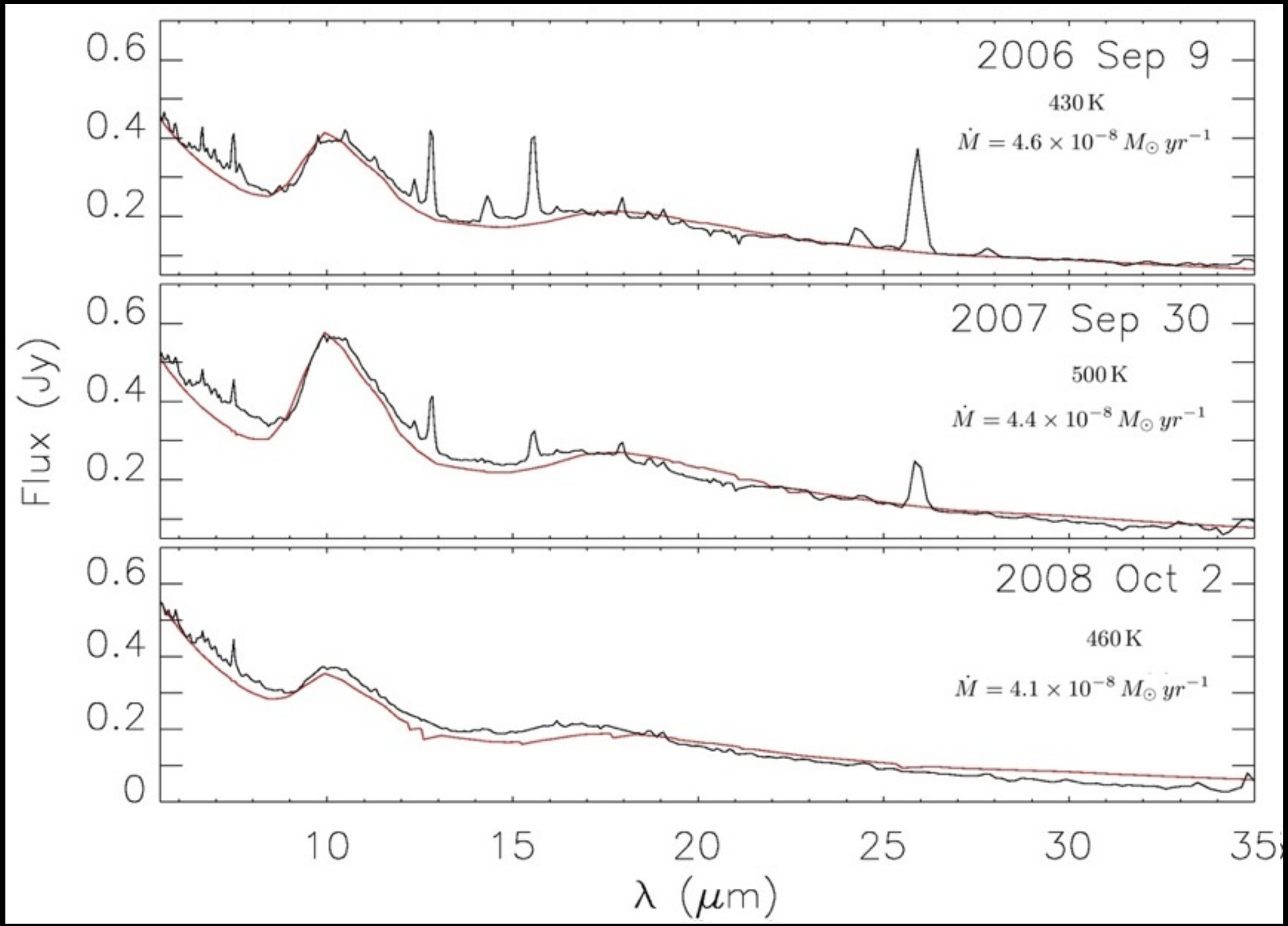


Angeloni et al. 2007

Dusty and the dust



Dusty and the dust



Summary

- IR spectroscopy shows dust emission from the red giant wind in RS Oph
- The dust features are variable for at least 3 years after the 2006 outburst
- The dust features suggest unusual grain properties.