VLTI/AMBER proposal

υ Sgr

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υ Sgr (1/3)

- single line spectroscopic binary
- discovered by Campbell (1899)
- photometric changes – not significant
- several extensive articles based on visual spectra
- UV spectra: OAO3, IUE
- P = 137.93d, slightly changes
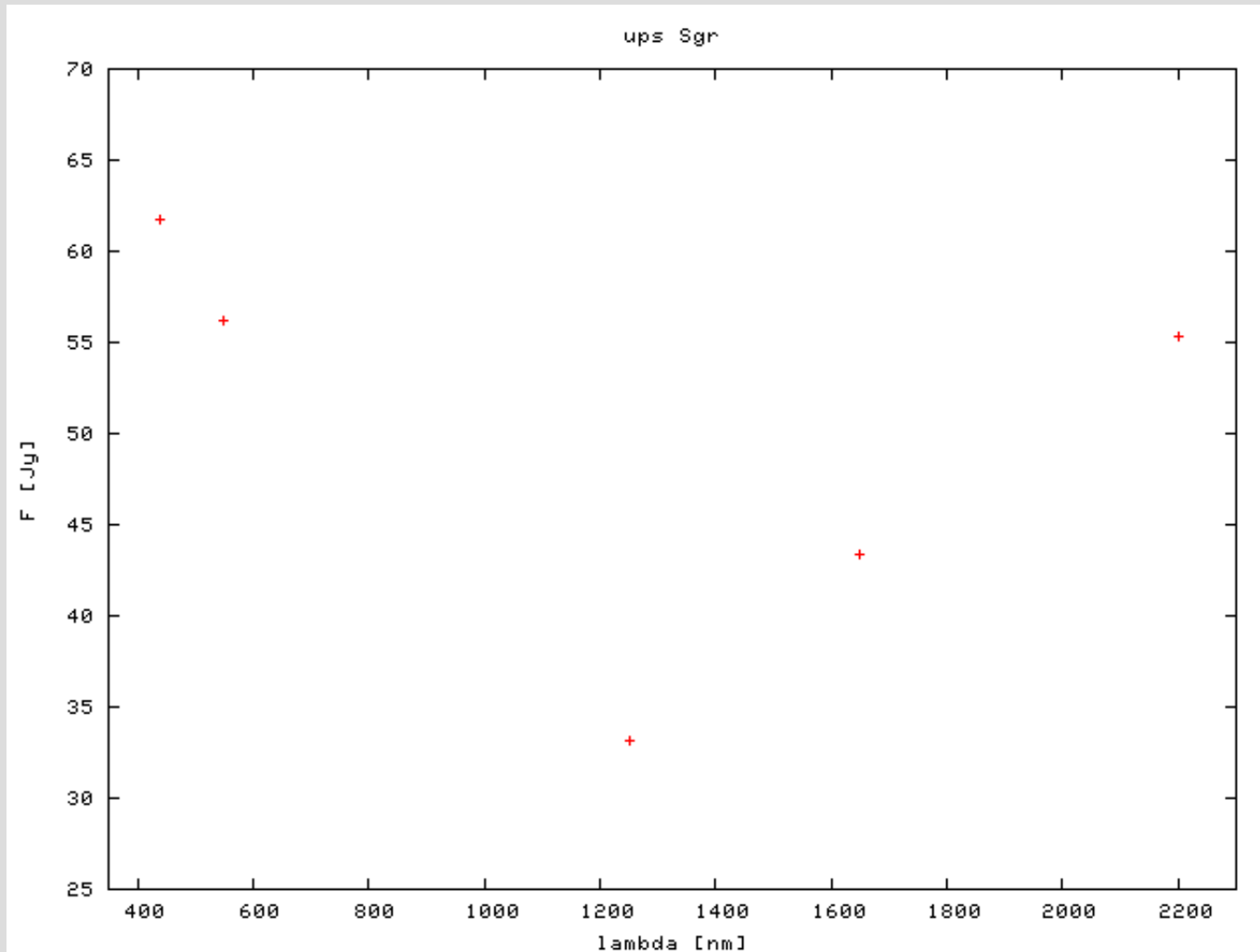- V = 4.6mag, K = 2.624mag

υ Sgr (2/3)

primary star
- visible in visual spectra
- both B8 and F2 lines
- H alpha emission line shares RV

secondary star
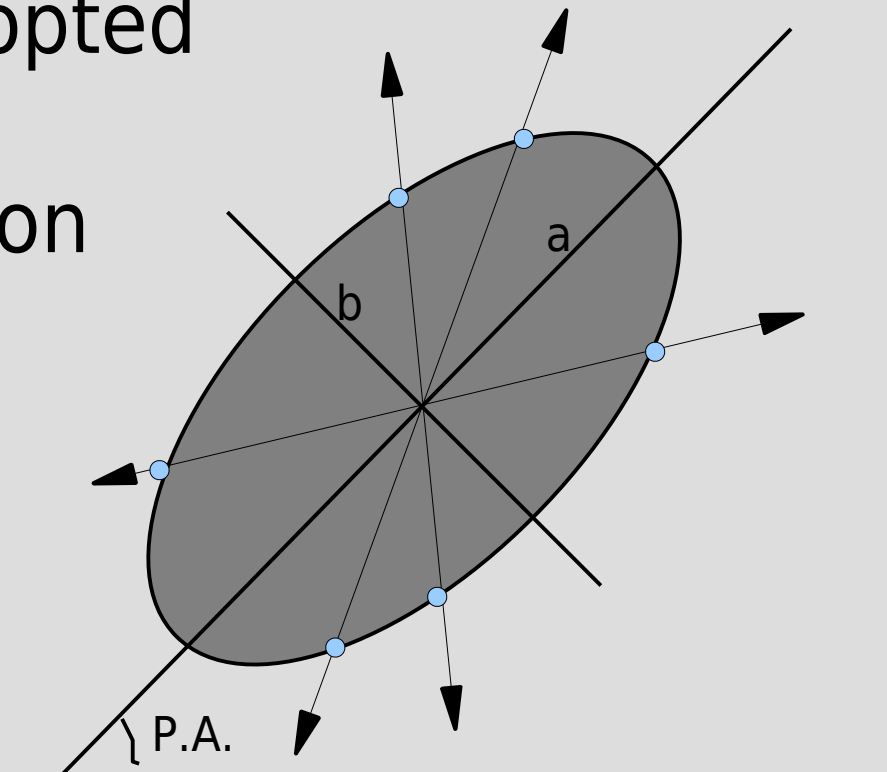- doubtful detection in IUE spectra
  $\Rightarrow$ M2/M1 = 1.57

υ Sgr (3/3)

υ Sgr - model

- only disk around primary observable in K band
- gaussian profile is adopted
- to be derived:
  orientation & inclination

Instrument setup

VLTI/AMBER
- U1-UT3-UT4 configuration
- AMBER, K-band, medium resolution
- May 15-25, 2007
- 2 observations for target, 1 for calibrator

Calibration star (1/2)
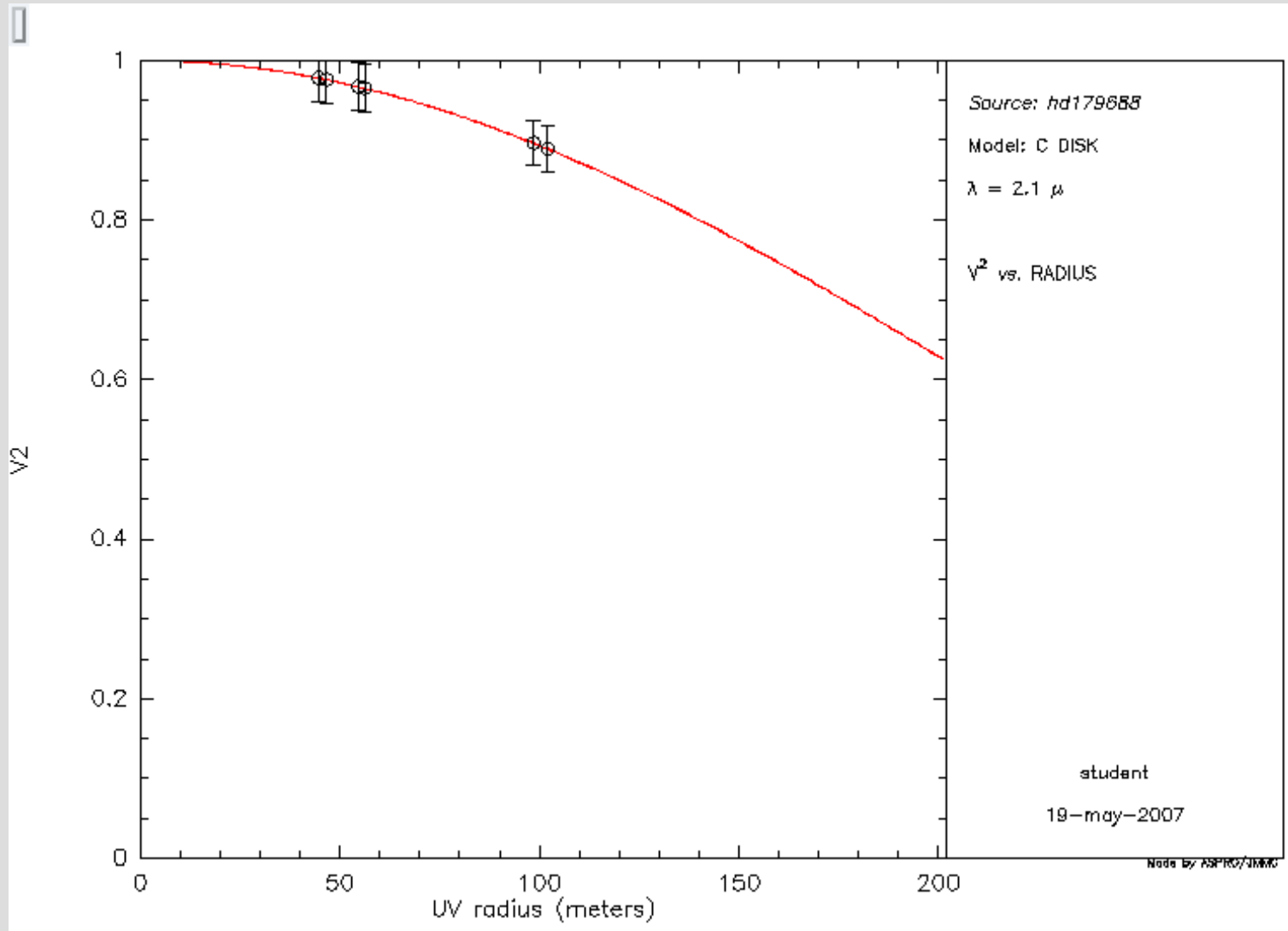
HD179688

    from AMBER_M04 catalogue
      (A catalog of bright calibrator stars for 200-meter
      baseline near-infrared stellar interferometry,
      A. Mérand, P. Bordé and V. Coudé du Foresto
      A&A accepted)

ang. dist. [deg]	2.7
sp. type	K2IIICN
ang. diam [mas]	0.92 ± 0.01

Calibration star (2/2)

Expected results (1/3)

i [deg]	a [mas]	b [mas]
70	1.3	1.25
50	1.6	1.23
30	2.5	1.25

taken from Koubský P. et al., 2006, A&A, 459, 849

Expected results (2/3)
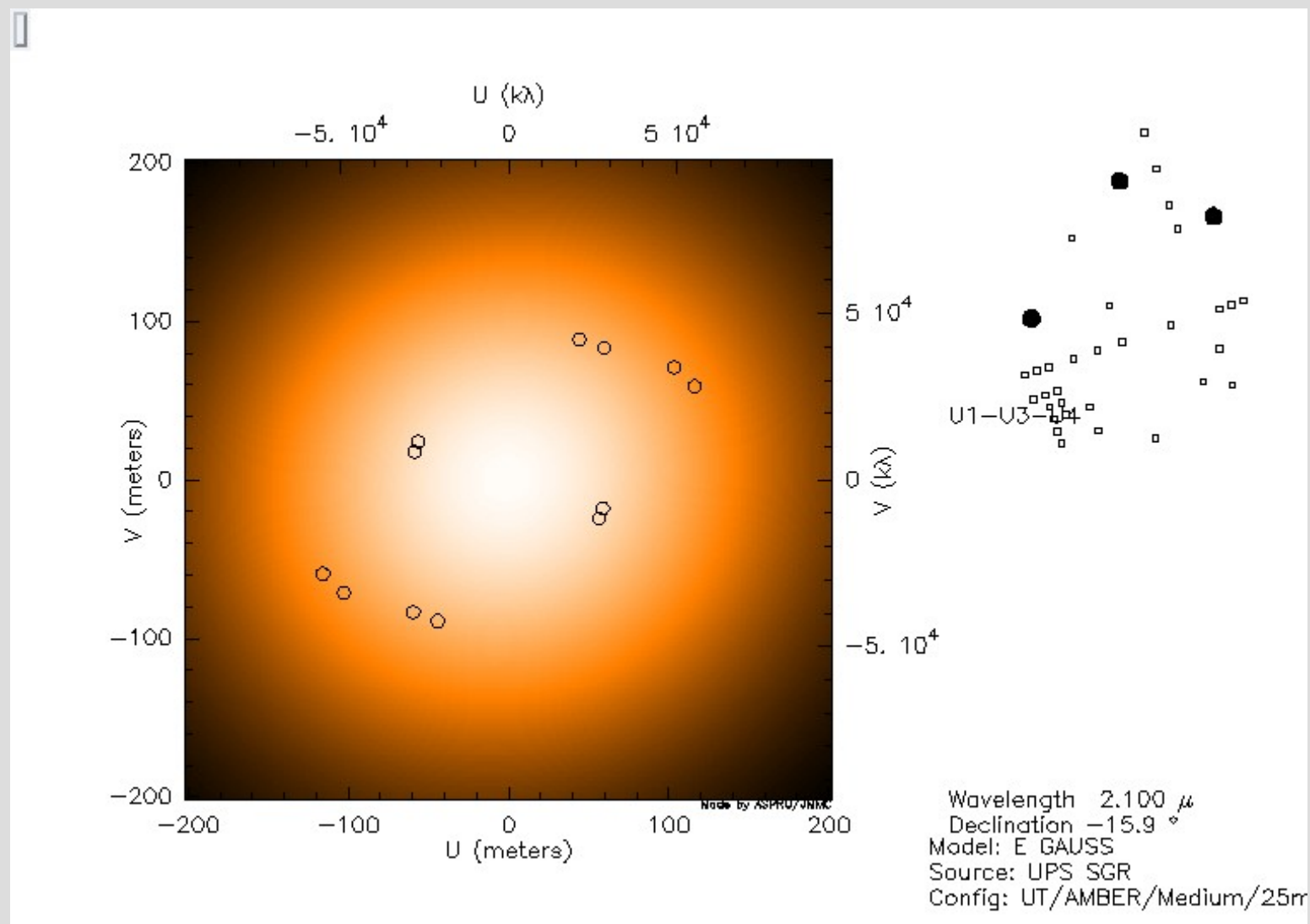
Expected results (3/3)
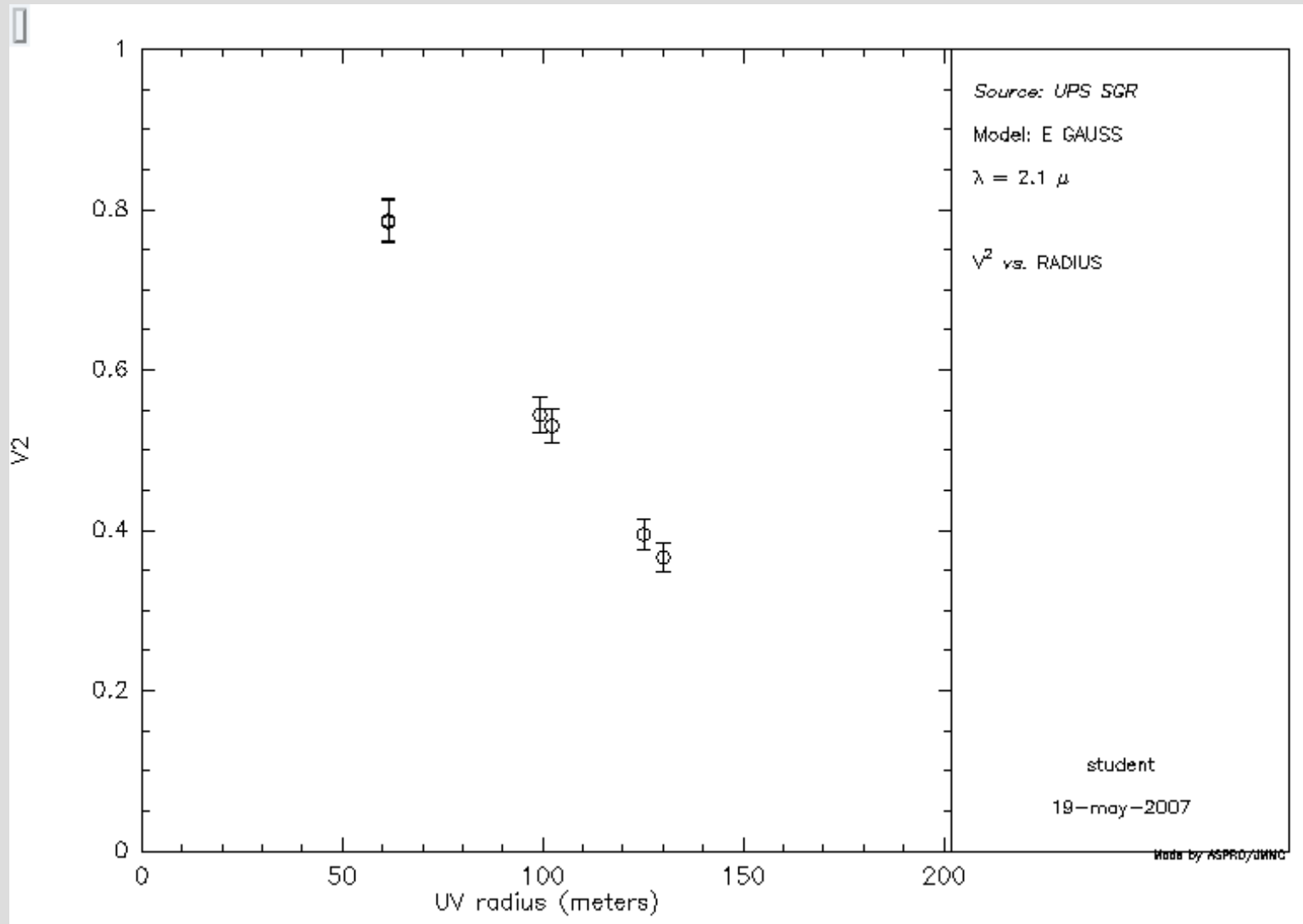
Conclusion

- object resolved ⇒ fit the ellipse ⇒ find P.A., inclination ⇒ find masses ⇒ clear picture of the system

- object not resolved ⇒ we get extra constrains on possible binary models