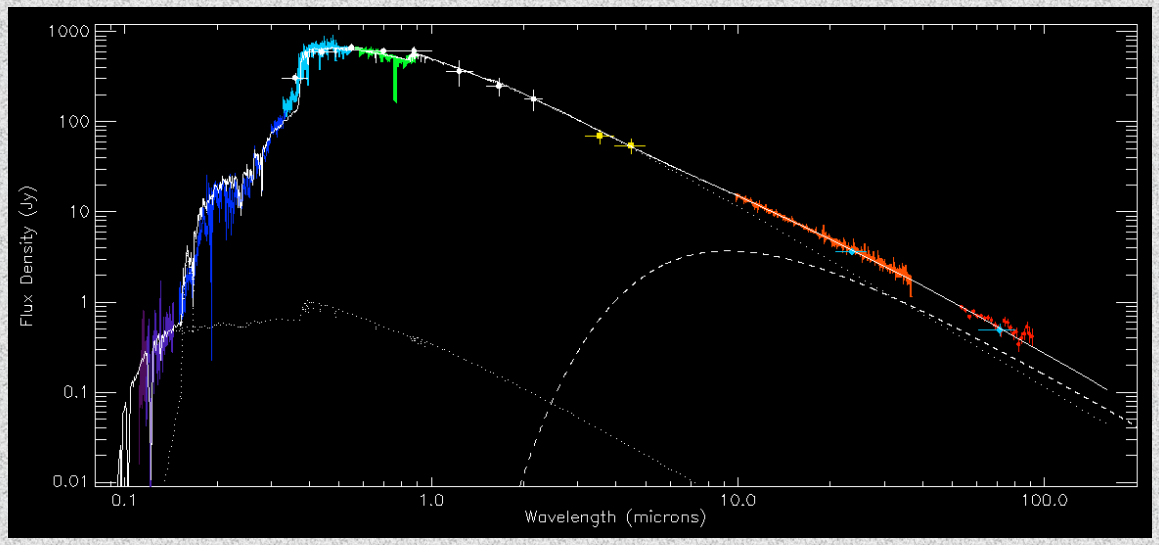
Spectral Energy Distribution of Epsilon Aurigae



This figure shows the observed (dereddened) SED of Epsilon Aur outside of eclipse, with a three component model. From short to long wavelengths, the photometric points are: UBVRI from the AAVSO (white circles), JHKs from 2MASS (white circles), IRAC (yellow squares) and MIPS (blue diamonds) from the Spitzer Space Telescope. Horizontal "error" bars on the photometric points represent the filter bandwidths, while the vertical error bars are the photometric uncertainties (which are dominated by the systematic uncertainty of the dereddening process for the data shortward of 5 microns). The spectroscopic data are: FUSE (dark purple), HST-GHRS (light purple), IUE (dark blue), ground-based optical (light blue and green), IRS (orange) and MIPS-SED (red squares) from Spitzer. The model (solid white line) is the sum of limb-darkened model F0 (post-AGB) and B5V spectra (dotted white lines), and a cool (T=550+/-50 K) blackbody disk (dashed white line). The model normalization fixes the F star radius at 135+/-5 Rsun. Constraints from the SED and orbital dynamics of the system require that the F star has a mass of only 2-3 Msun and is, therefore, an evolved post-AGB object instead of a massive supergiant (Hoard, Howell, & Stencel, 2010, ApJ, submitted).