Physical Properties of the G-type Eclipsing Binaries from the Kepler Observations

Li-Ching Huang, Wing-Huen Ip, and Han-Yuan Chang
Institute of Astronomy, National Central University, Taiwan

Ali Luo and Yihan Song
National Astronomical Observatories, Chinese Academy of Sciences

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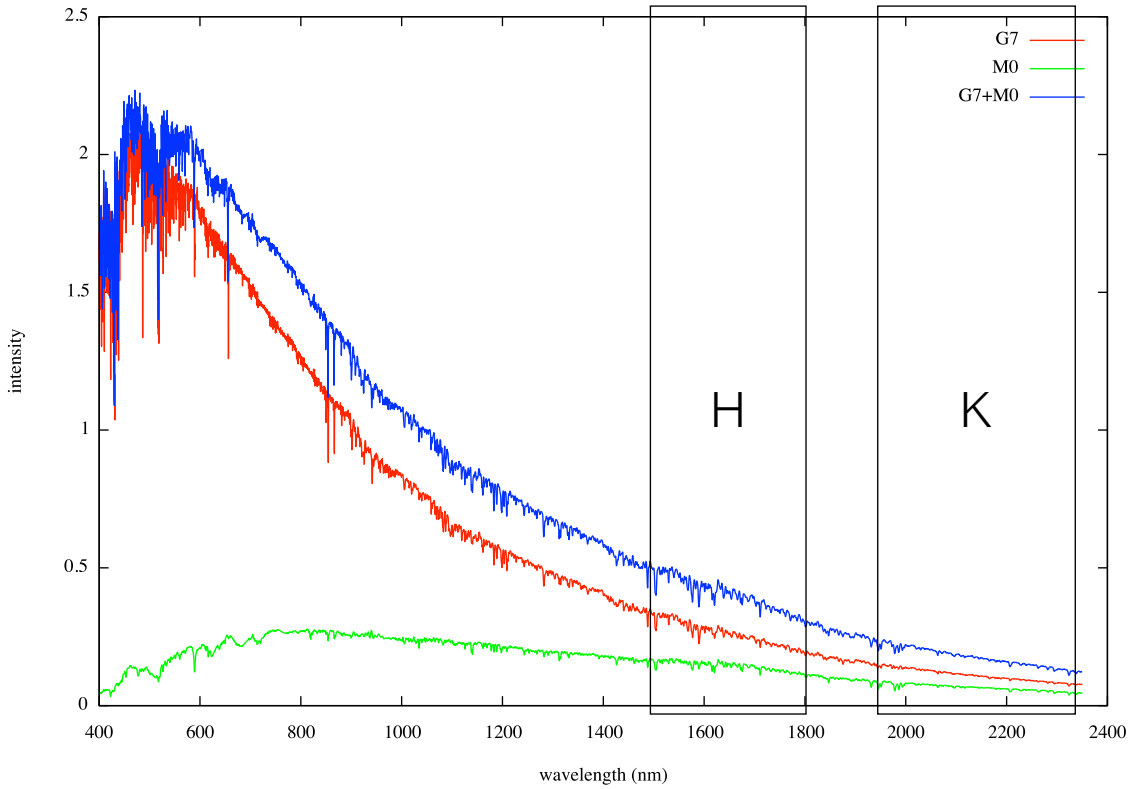
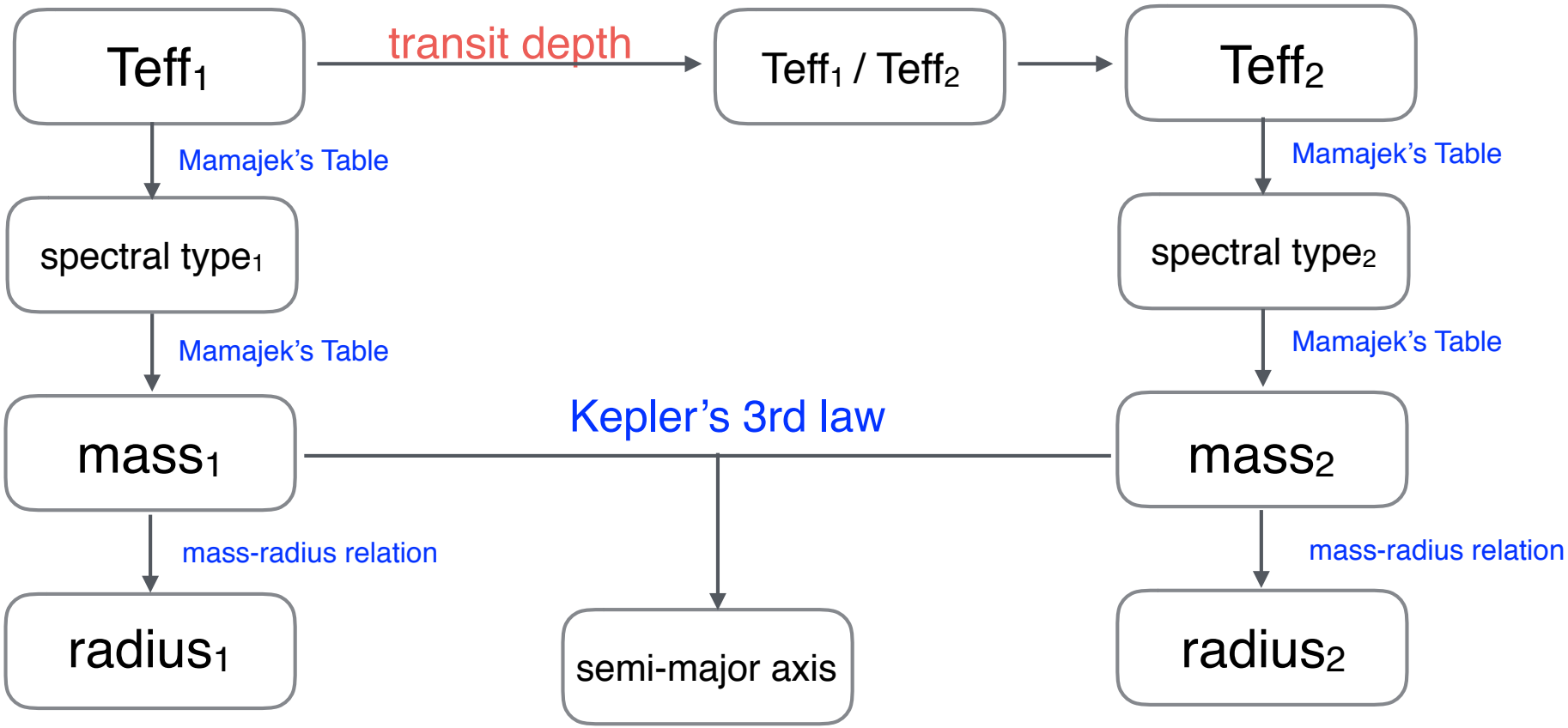
NIR Color Table



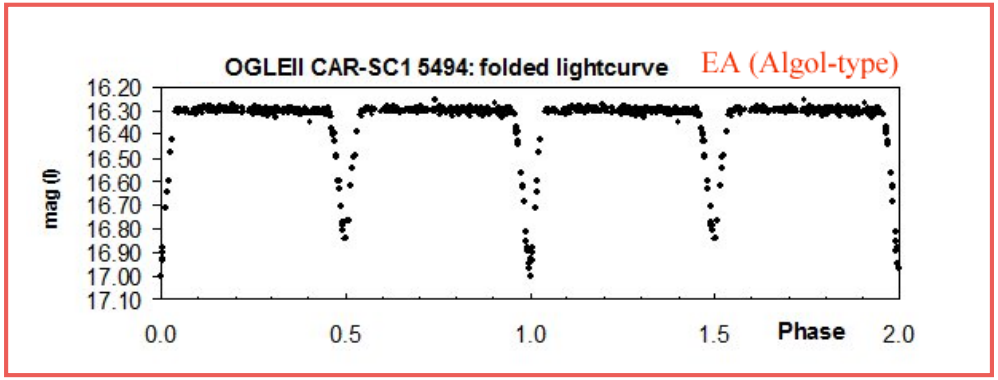
Physical Properties of Binary Components

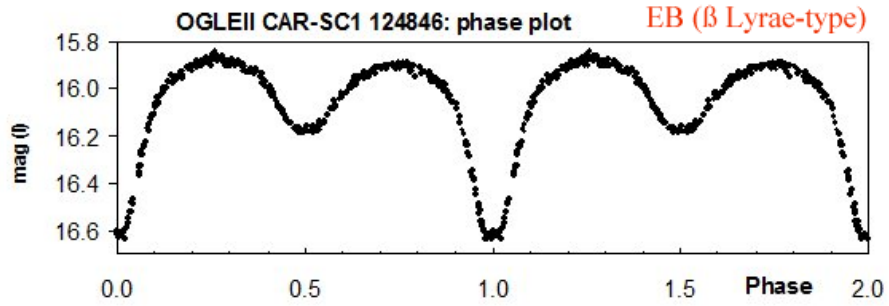


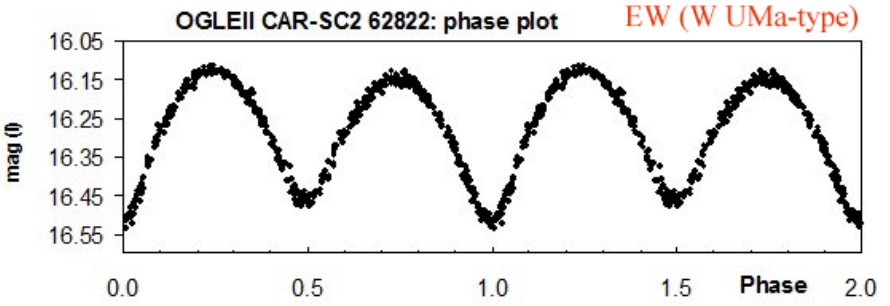
Mamajek's "Stellar Color/Teff Table" (http://www.pas.rochester.edu/~emamajek/)

Algol Type Eclipsing Binaries

- Teff: 5000K - 6000K (according to Huber, 2014)
- log(g) > 4
- 211 Algol type EBs are selected.
- 131 have been observed by LAMOST
- 11 of them are with flare events

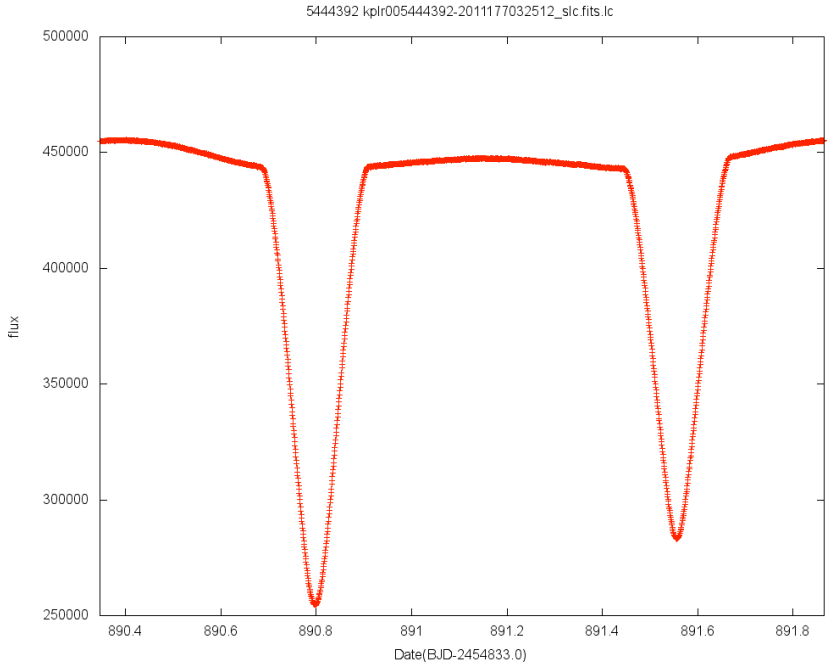






Hummerich and Bernhard (2012).

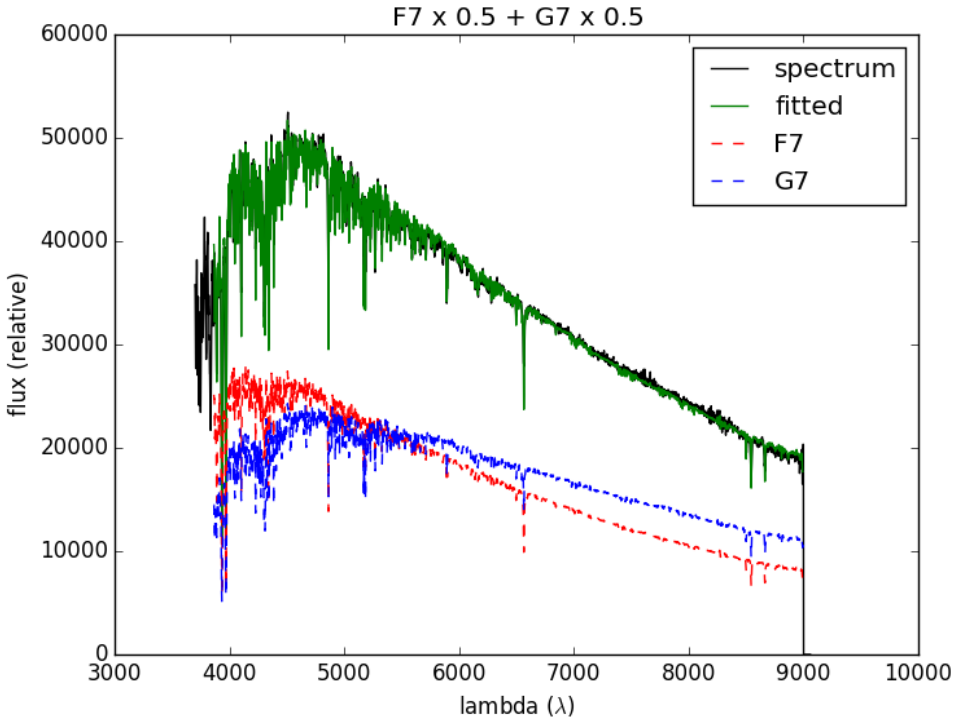
KIC 5444392

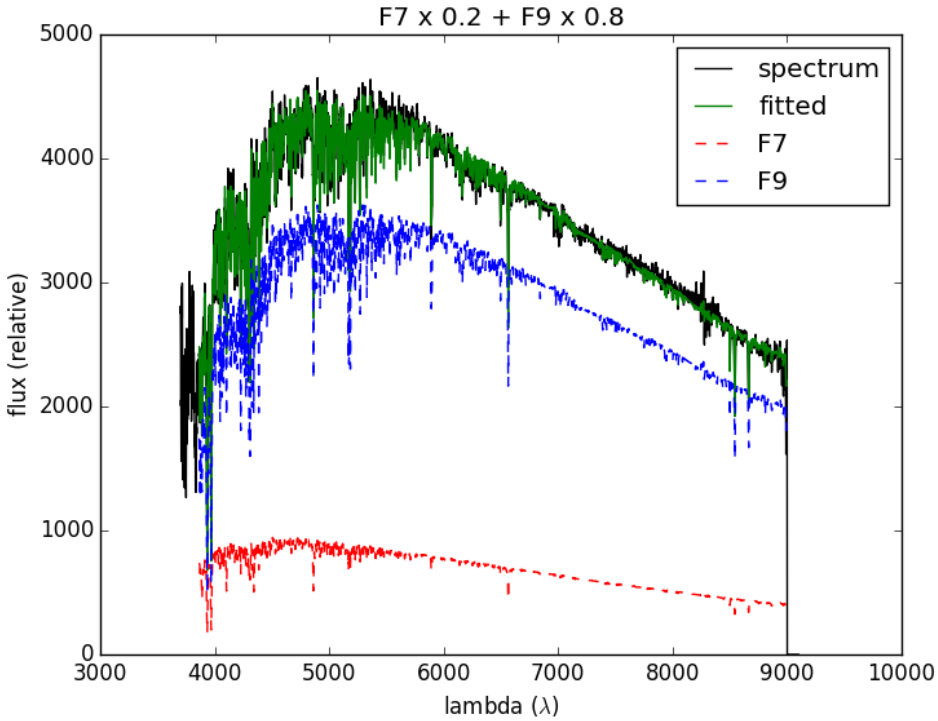


	Teff (K)	Spectral type	Mass (Msun)	Radius (Rsun)	Radius (AU)
Star1	5930	G0	1.09	1.05	0.0049
Star2	5680	G4	0.99	0.99	0.0046

Porb	T1/T2	q	R1+R2	a	flare	Tt(e)	Tt(I)
1.52	1.044	0.91	0.0095	0.028		0.17	0.20

KIC 5444392
(LAMOST spectra)

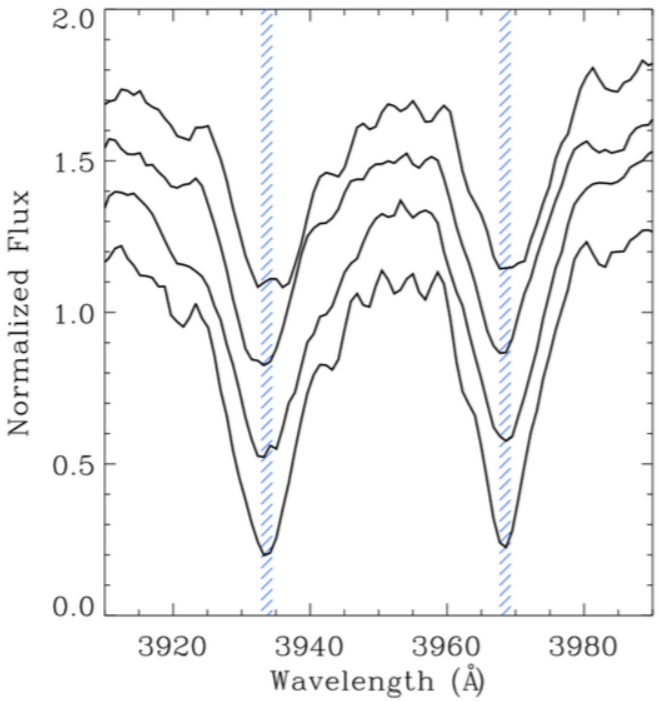




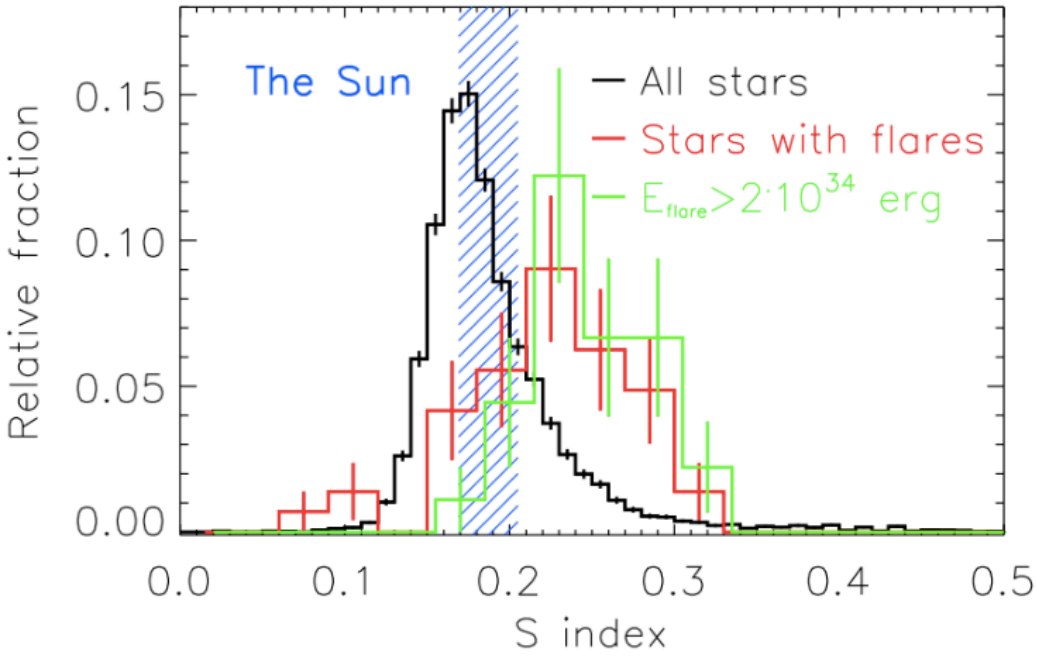
- Kepler lightcurve: 5930K (G0) + 5680K (G4)

S-index

- $S = \alpha \cdot (H+K)/(V+R)$



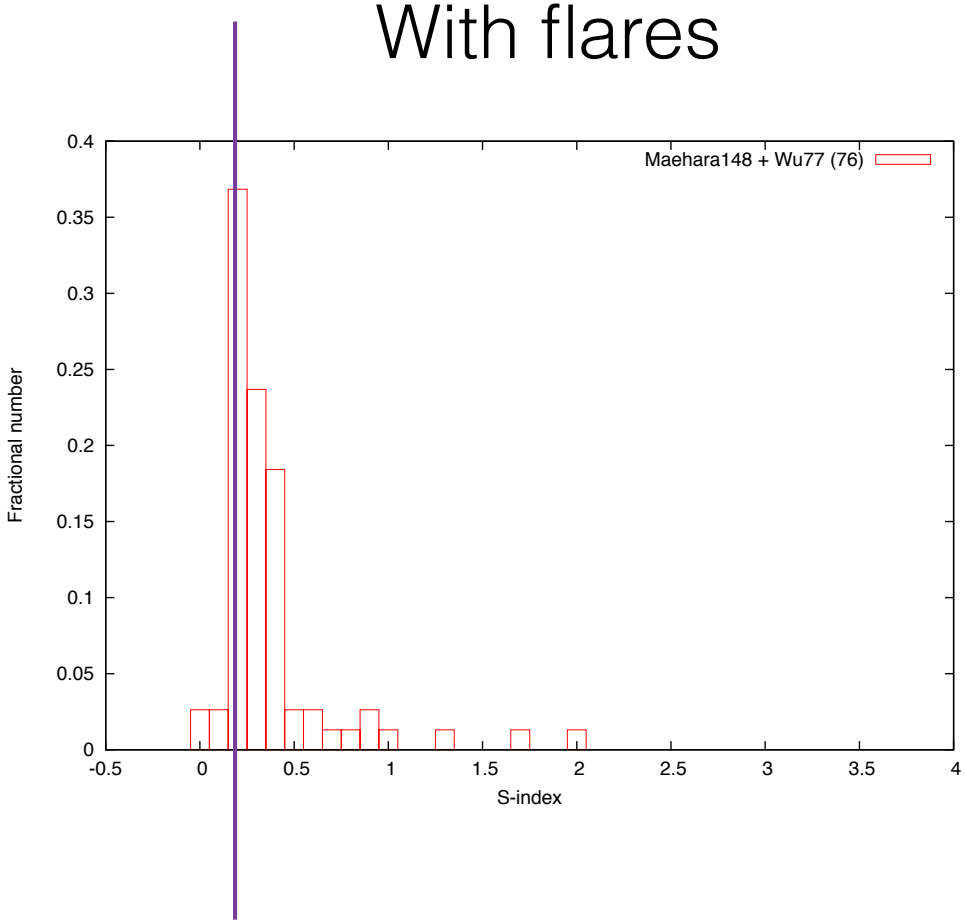
(Karoff et al., 2016)



(Karoff et al., 2016)

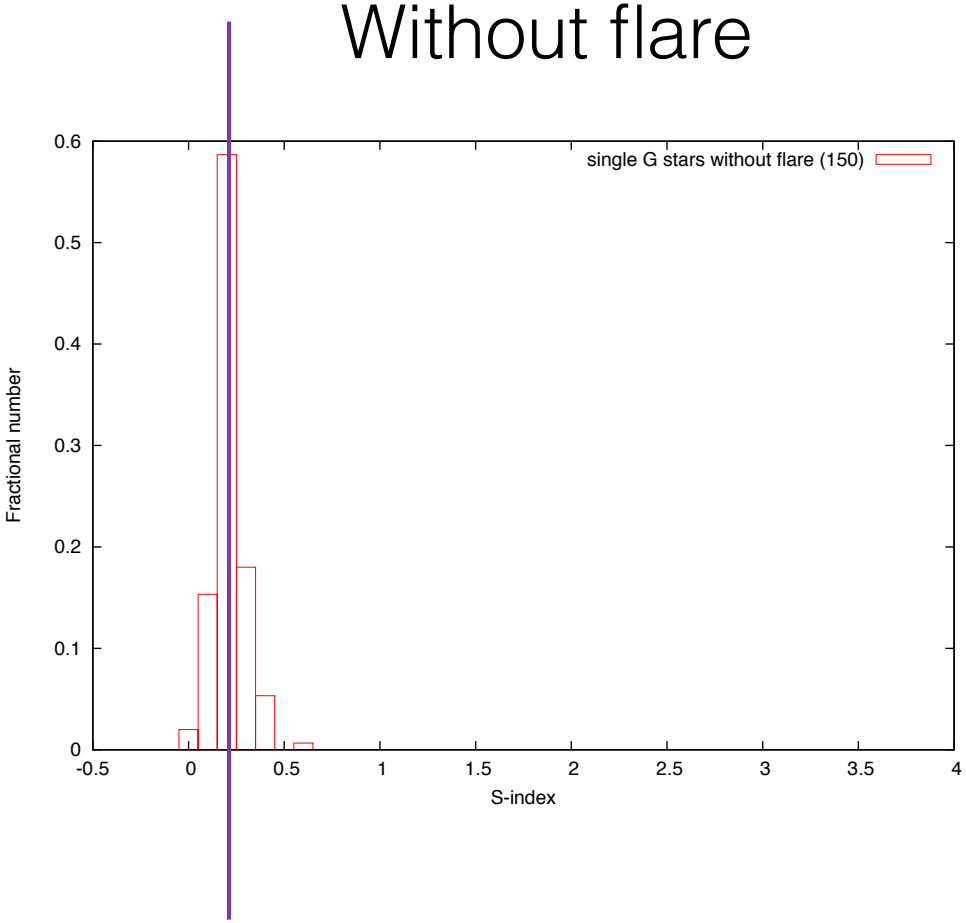
Single G-type Stars

With flares



0.2

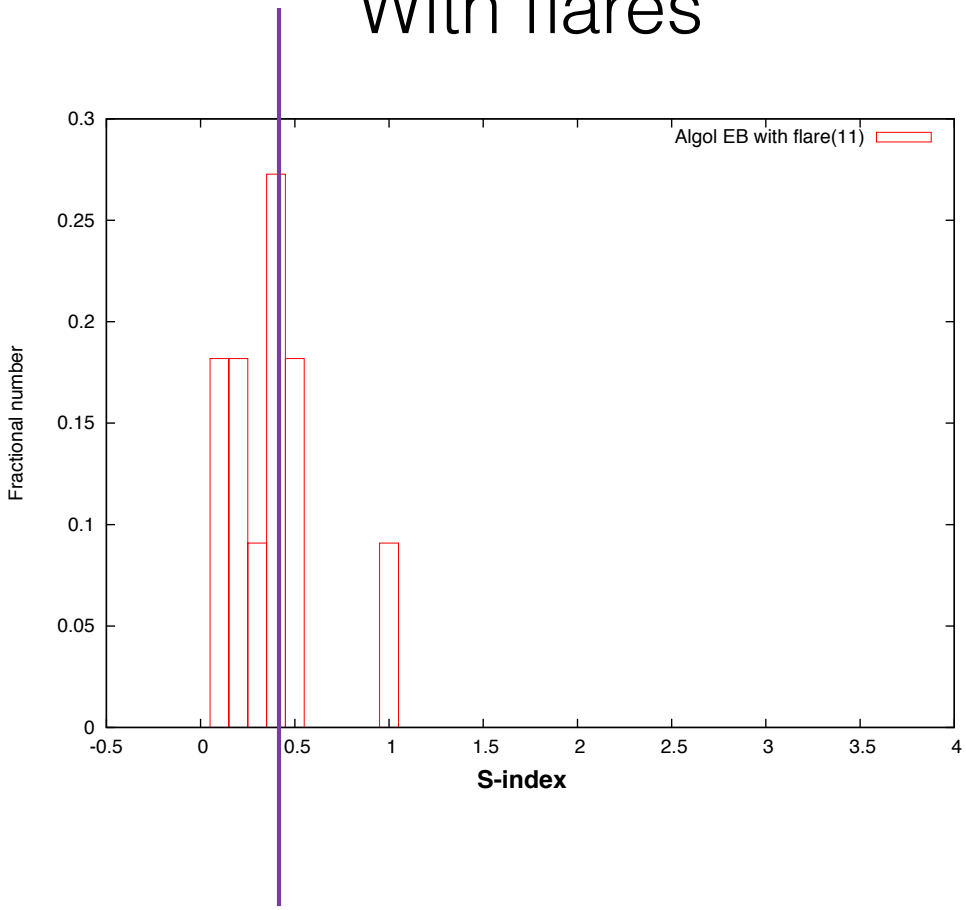
Without flare



0.2

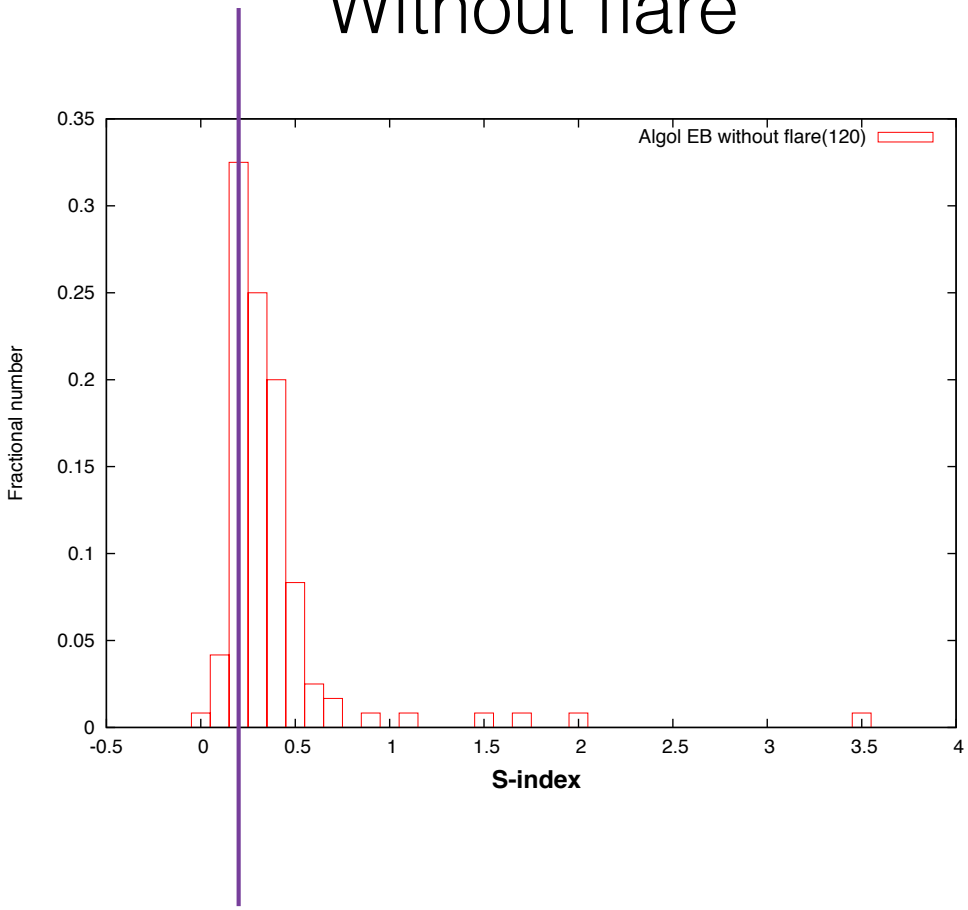
Eclipsing Binaries with G-type Primary Stars

With flares



0.4

Without flare



0.2

Thank you!