

# Optical spectroscopy of the Double Periodic Variable V393 Scorpii during its long cycle

- Eclipsing Interacting Binary
- Double Periodic variable (DPV)
- orbital period = 7.71 days
- long period = 253 days

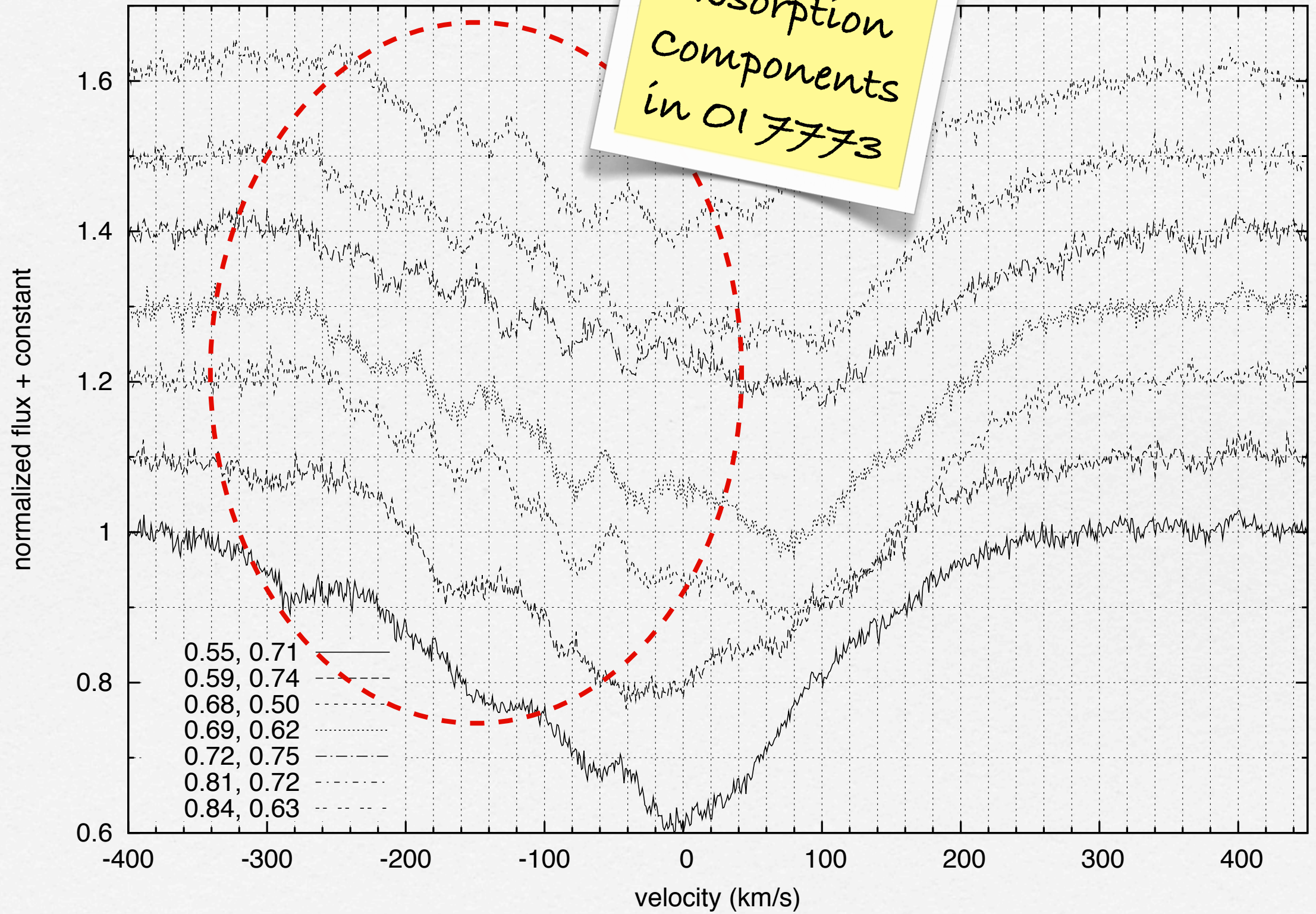
July 2011  
IAU Symposium 282  
Poprad, Slovakia

... by Mennickent,  
Kolaczkowski,  
Djurasevic, Diaz,  
Niemzcura

3 mins!  
just a few highlights

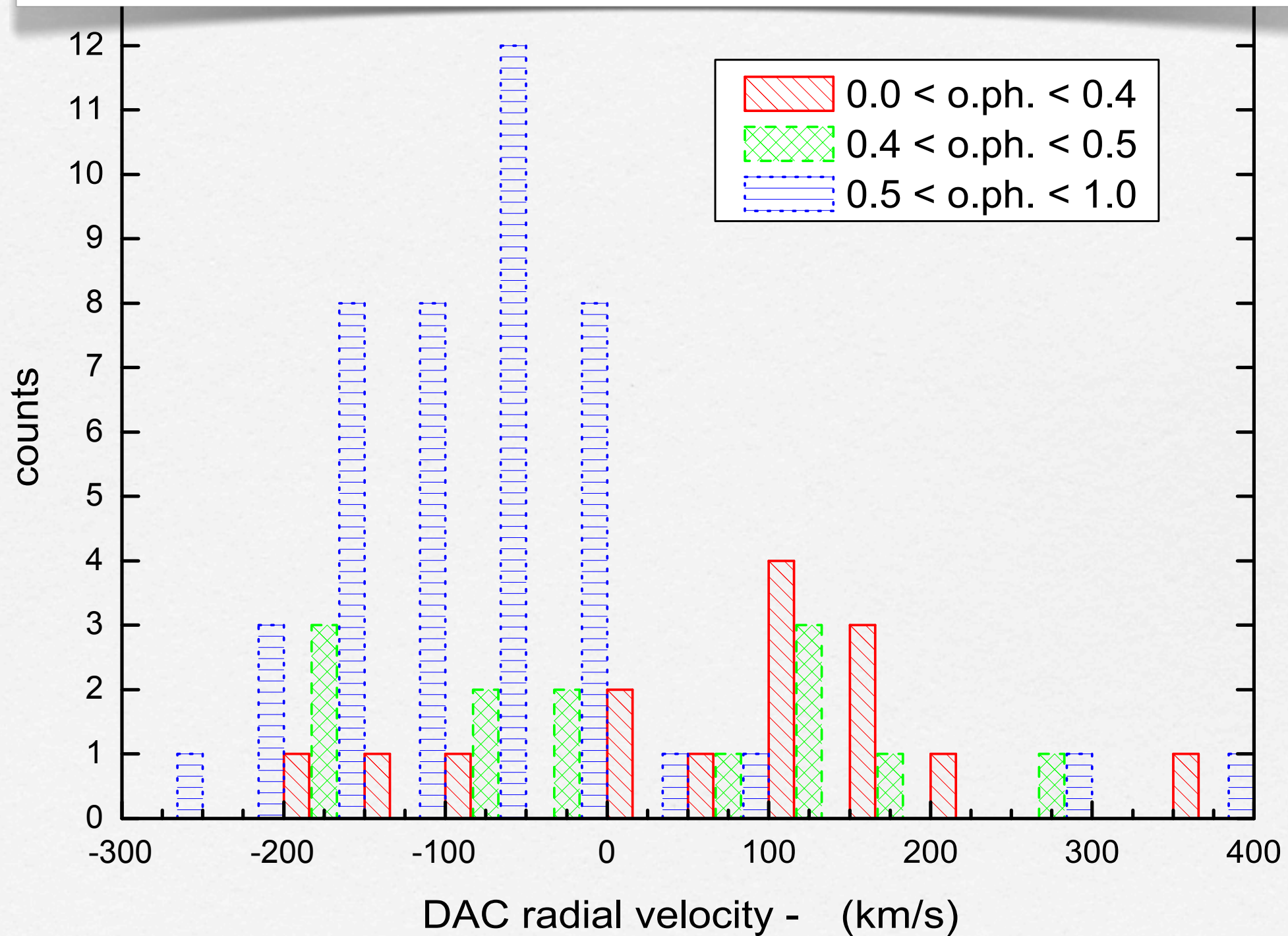


Discrete  
absorption  
components  
in O1 7773





They are mostly visible in 2nd part of the orbital cycle

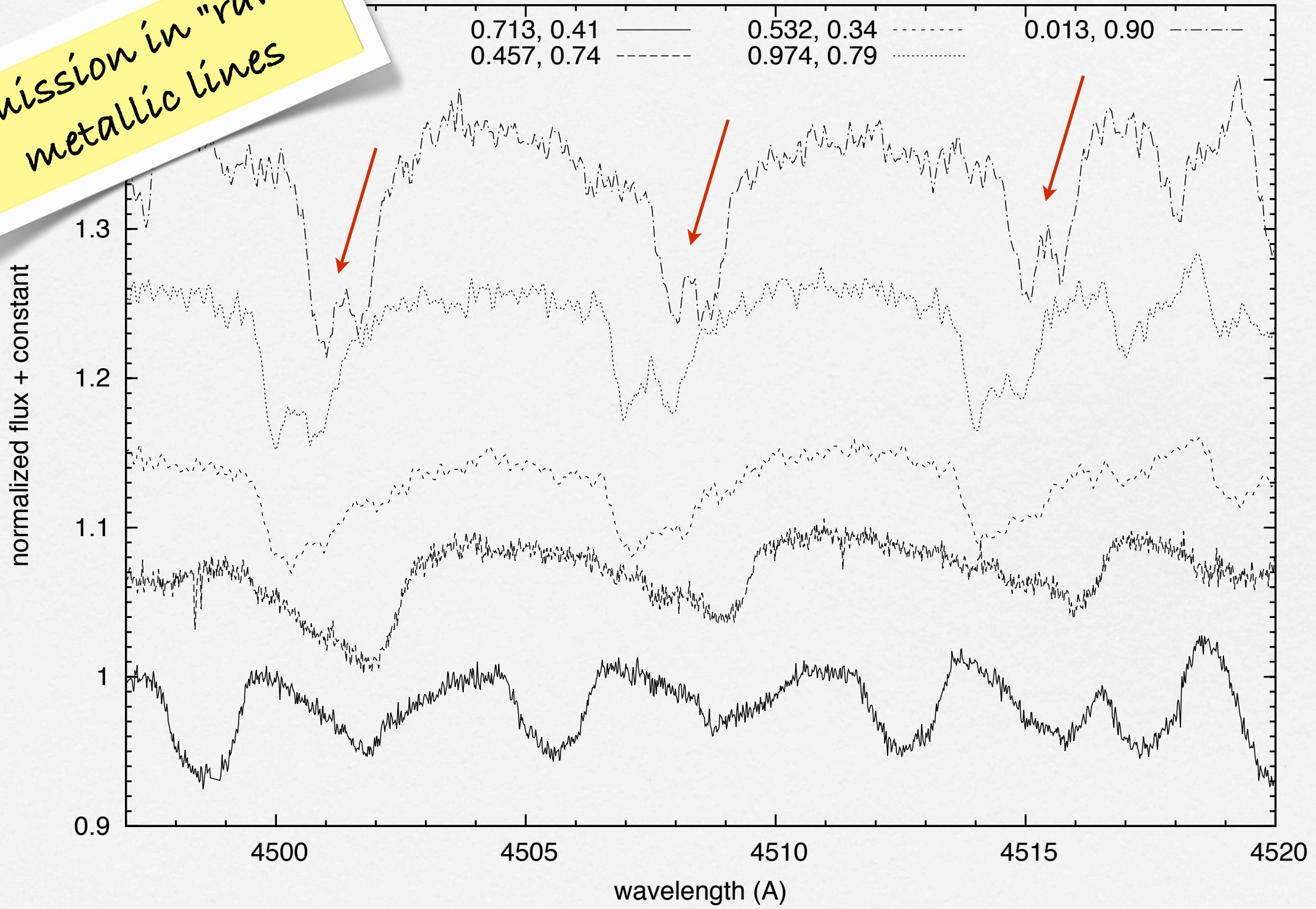




# Ti II 4501.3, Fe II 4508.3 and Fe II 4515.3

0.713, 0.41 ——— 0.532, 0.34 - - - - - 0.013, 0.90 - · - · - ·  
0.457, 0.74 - · - · - · 0.974, 0.79 - - - - -

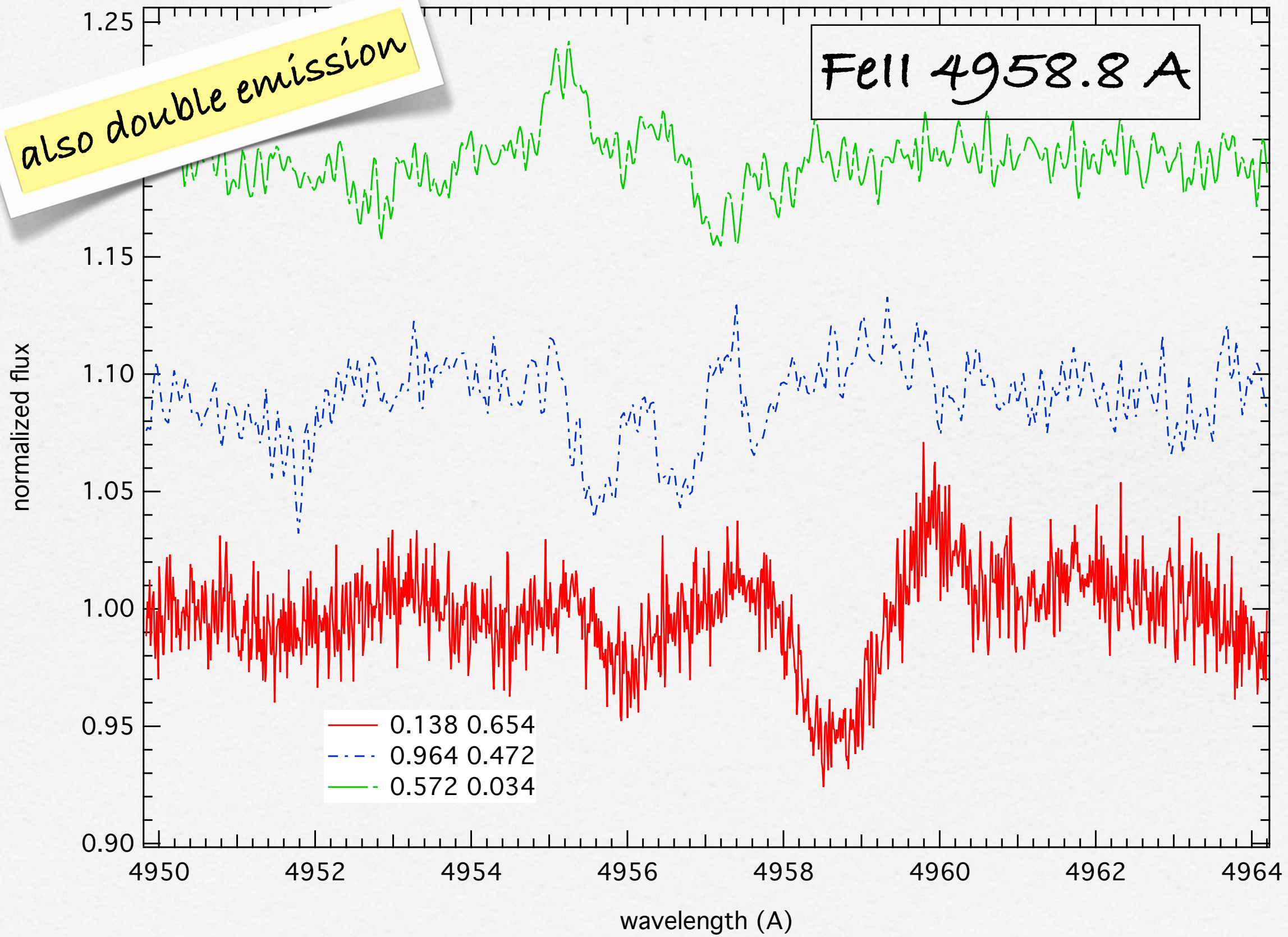
emission in "raw"  
metallic lines





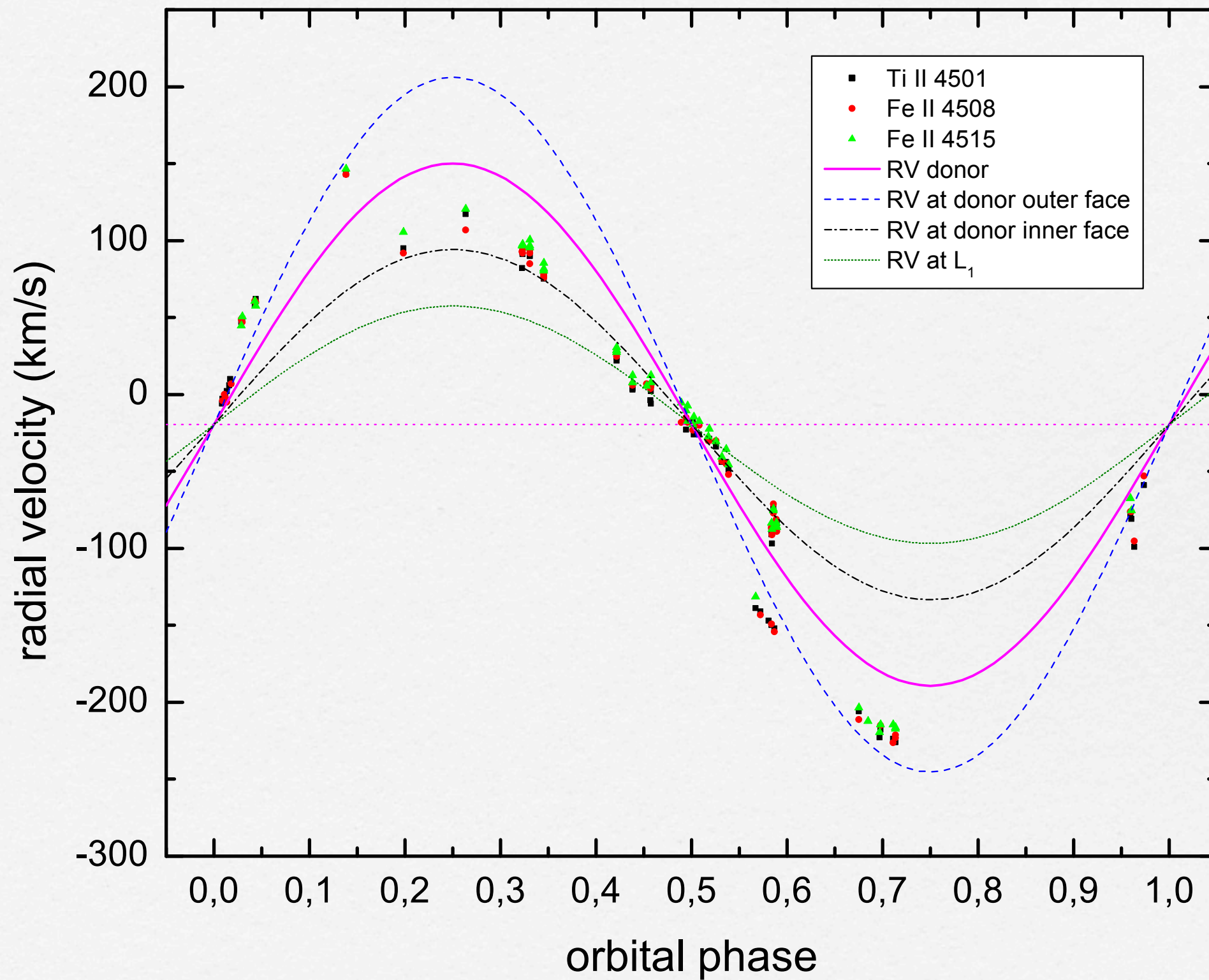
also double emission

FeII 4958.8 A

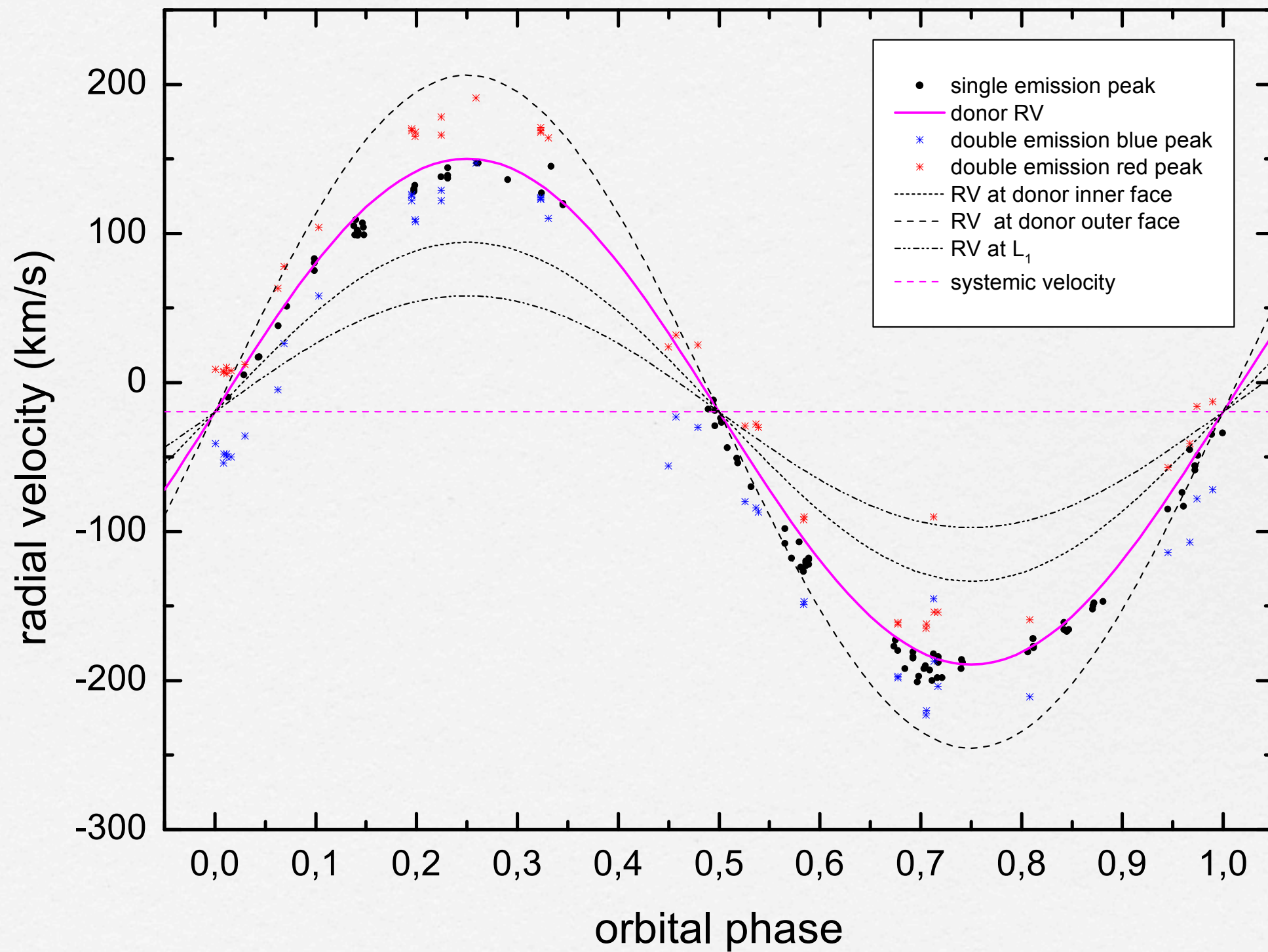




# V393 Scorpii emission lines in donor subtracted spectra



# V393 Scorpii CI 6587.75 emission line in donor subtracted spectra





# Summary

- detection of discrete absorption components, especially visible around o. phases 0.5-1.0
- detection of metallic spectrum in emission following donor RV. Preliminary hypotheses:
  - donor irradiated by the gainer/disc or hot spot
  - stellar wind emerging from the donor
  - emission spots near the stellar surface (magnetism?)

... and metallic emission is larger during long cycle maximum ...