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

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3 mins!
just a few highlights
Discrete absorption components in OI 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

normalized flux + constant vs wavelength (Å)

emission in "raw" metallic lines
also double emission

FeII 4958.8 Å
V393 Scorpii emission lines in donor subtracted spectra

![Graph showing radial velocity vs orbital phase for different elements and RVs.](image)
V393 Scorpii Cl 6587.75 emission line in donor subtracted spectra
Summary

- detection of discrete absorption components, especially visible around 0. 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 ...