Nature of the Gamma-ray Transient Nova Sco 2012

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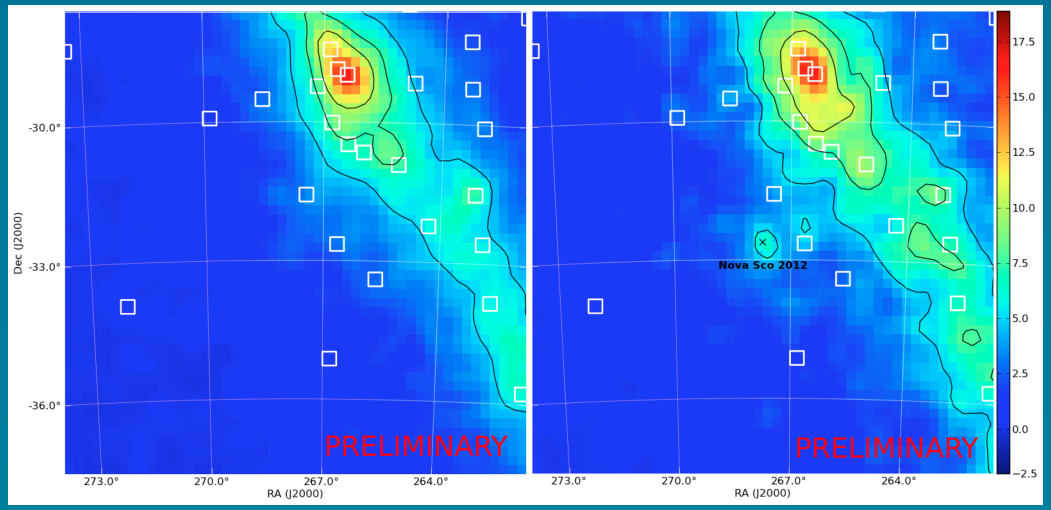


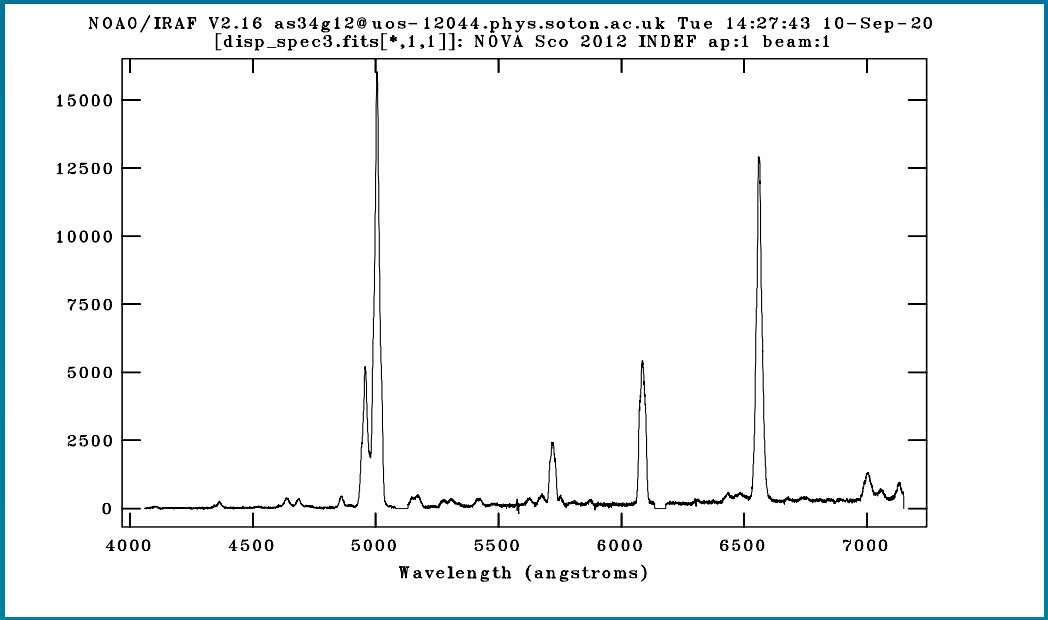
In June 2012 the LAT instrument on the Fermi Gamma-ray Space Telescope detected a new transient spatially coincident with the recently discovered optical Nova Sco 2012 – the second gamma-ray nova to be detected.

(Hill A. B., in 4th International Fermi Symposium Proceedings, Monterey, 2012, edited by 2012 Fermi Proceedings Editorial Committee, p. 112)

- Only limited follow up after discovery
- Putative P~1.6h reported during outburst (ATel 4157
- Optical spectra revealed standard Fe II nova with no hot lines (ATel #4287)
- Radio detection at 5 and 6.75GHz (ATel #4288)
- After nova faded we requested DDT observations to look for evidence of the nature of the WD/disc

2013-1-UKSC_RSA-001(DDT Observations) PI:Shaw

3 x 600s RSS spectra w/ pg0900 grating



- Nebular lines still dominant
- But hot WD now visible – presence of He II 4686 (and Bowen emission) – results published in ATel #5525
- Will follow up when source visible again with SALT/RSS to cover full 1.6h cycle to determine nature of the system
- Not yet been done for any of the 4 known γ-ray novae

Blow up of Bowen/He II region 4550-4750Å