

SALT RSS longslit spectroscopy
of
Supersoft X-ray Sources
Short status report

A. Odendaal

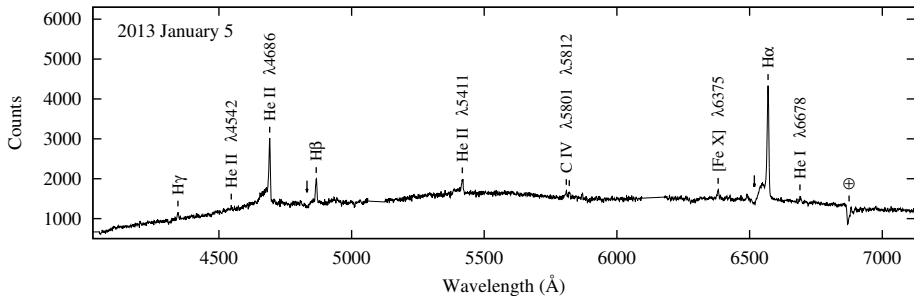
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May 2013

CAL 83: Transient SSS in LMC

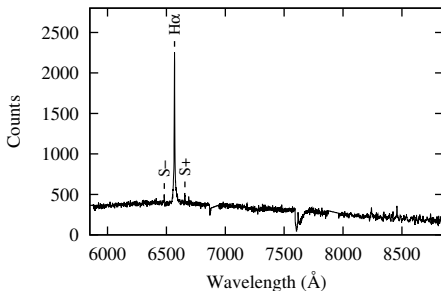
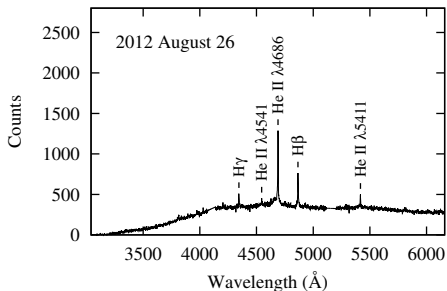
- ▶ Visited 8 times by SALT during 2011-2013.
- ▶ Accretion disc emission lines, with **broad, variable blueshifted wings** in He II $\lambda 4686$, H β , He II $\lambda 5411$ and H α
 - ▶ extending to $\gtrsim -2000$ km s $^{-1}$ from rest wavelength,
 - ▶ possibly related to **wind or jet with large collimation angle from an accretion disc** precessing at ~ 69 d period? (Crampton et al. 1987)
- ▶ **P Cyg profiles** (also variable) in H α and H β , supporting the presence of **mass outflow** (e.g. Drew 1995).



Results included in: Odendaal 2012 (M.Sc. thesis), Odendaal et al., MNRAS (in prep.)

RX J0513.9-6951: Transient SSS in LMC

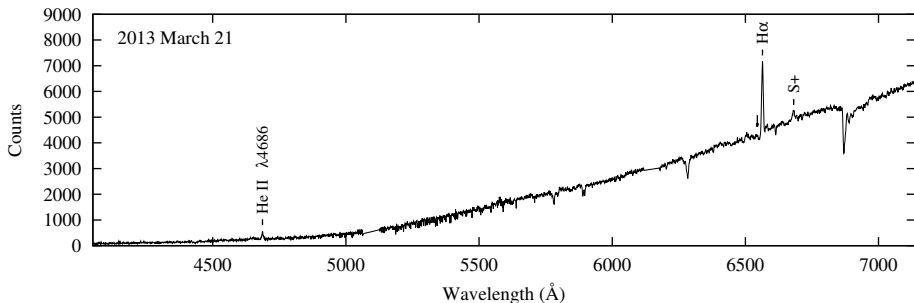
- ▶ Observed by SALT on 26 Aug and 28 Oct 2012.
- ▶ **Balmer** and **He II** accretion disc **emission** lines.
- ▶ **Bipolar outflow components** (Southwell et al. 1996) present in **H α** at ~ 4000 km/s on 26 Aug.
- ▶ Bipolar H α lines not present on 28 Oct: coupled with **transient** cycles of source?
- ▶ Lack of blue emission in Balmer lines.



Results still in preparation.

RX J0925.7-4758: A galactic SSS

- ▶ Observed by SALT on 21 March and 29 April 2013.
- ▶ **He II $\lambda 4686$ and H α emission lines.**
- ▶ Motch (1998) reported discovery of transient bipolar H α jet features at velocity ~ 5200 km/s during single night in June 1997.
- ▶ In SALT spectrum, only **red component of H α jet feature** is visible, at ~ 5300 km/s.
- ▶ Main H α line exhibits P Cyg profile, supporting mass outflow scenario.



Results still in preparation.

