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## Multi-wavelength variability and optical identification of a selection of supersoft X-ray sources

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**Abstract content** <br> &nbsp; (Max 300 words)<br><a href="http://events.saip.org.za/getFile.py/?target="\_blank">Formatting &<br>Special chars</a>

Supersoft X-ray sources (SSSs) were established as a unique class on the basis of their low X-ray temperatures and extreme luminosities. Numerous SSSs are known in the Magellanic Clouds, where they were first discovered, as well as in external galaxies and also a few in the Milky Way. Optical identifications and photometric studies of several Magellanic Cloud SSS transients and binary supersoft sources are being conducted using archival data, and observations with the 1.5-m telescope at the Boyden Observatory are also being planned. The M31 galaxy (Andromeda) has been extensively studied with X-ray telescopes like ROSAT, Chandra and XMM-Newton, but for many of the M31 SSSs, not much has been reported in the optical waveband. The M31 SSS RX J0038.6+4020 was first detected during the ROSAT PSPC survey of M31 in 1991. It was classified as a SSS according to the X-ray hardness ratio, but little is known of this source in the optical. Using a ~9 year optical light curve of the SSS RX J0038.6+4020 from the Catalina Real-Time Transient Survey (CRTS) database, the long-term optical light curve of this source is presented.

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**Level for award**<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD, N/A)?

MSc

**Main supervisor (name and email)**<br>**and his / her institution**

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Yes

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