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## A comparative timing and spectral analysis of *Suzaku* X-ray data of the nova-like variable system AE Aquarii.

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**Abstract content** (Max 300 words) [http://events.saip.org.za/getFile.py/?target=\\_blank](http://events.saip.org.za/getFile.py/?target=_blank) **Formatting** **Special chars**

The nova-like variable system AE Aquarii shows strong emission in the X-ray regime. Previous studies using data from *Ginga*, *ASCA*, *XMM-Newton*, *Suzaku*, *Chandra* and *Swift* was used to characterise the soft and hard X-ray components. The soft component was found to be multi-thermal in nature whereas the hard component could possibly be non-thermal in nature. Additional timing analysis of predominantly the soft X-ray data was used to update the white dwarf (WD) spin ephemeris, with discrepancies however still reported between different ephemerides determined at different epochs and data sets.

A comparative timing and spectral analysis of the available *Suzaku* data will be considered. A phase based timing analysis will be considered, with the results used in conjunction with results from previous studies to compare the current most accurate and excepted ephemerides for the WD as calculated by Mauche (2006) and de Jager et al (1994) to update and confirm the WD ephemeris. A very accurate WD ephemeris is critical for other studies, such as a possible correlation that has been reported between the WD spin period and possible pulsar like emission towards higher energies.

A comparative analysis of the soft and hard X-ray spectra will also be considered. Utilizing the latest calibration data-base models the spectra will be analysed and compared to previous studies to confirm the thermal nature of the soft X-ray components and to determine the full nature of the hard X-ray component. There exists an uncertainty as to whether the hard X-ray component is thermal or non-thermal. In conclusion the significance of the results obtained will be explored.

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No

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N/A

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

N/A

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Yes

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