

Visit of Aarran Shaw, University of Nevada, Reno, USA

30 days, mid-Jan till mid-Feb

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Dr. Aarran Shaw from the University of Nevada, Reno (USA) visited API for 1 month in 2020 January-February. The purpose of the visit was for my PhD student, Mr. van den Eijnden, to receive expert training from Dr. Shaw to analyse our recent VLT observations imaging and spectroscopic observations. The visit was very fruitful and we obtained two main results. Firstly, Mr. van den Eijnden learned to perform psf and differential photometry analyse a complex near-infrared imaging data set of the globular cluster Liller 1. This analysis has allowed us to identify the long-sought nIR counterpart of the famous X-ray binary 'the Rapid Burster'. Secondly, analysing the nIR spectrum of the faint X-ray binary 1RXH J173523.7-354013. Whereas this appears to be a normal X-ray binary, we came to the highly surprising conclusion that the companion is a giant star. This implies that the neutron star must be accreting from the wind of this giant, rather than through the standard mechanism of Roche-lobe overflow. This has major implications for our understanding of magnetic field decay in neutron stars, and the nature of other faint X-ray binaries.

Dr. Nathalie Degenaar