

## RECENT OBSERVATIONS OF V4334 SGR (SAKURAI'S OBJECT) AND V605 AQL

P.A.M. van Hoof<sup>1</sup>, M. Hajduk<sup>2</sup>, A.A. Zijlstra<sup>3</sup>, F. Herwig<sup>4</sup>, A. Evans<sup>4</sup>, G.C. Van de Steene<sup>1</sup>, S. Kimeswenger<sup>5</sup>, F. Kerber<sup>6</sup>, S.P.S. Eyres<sup>7</sup>

<sup>1</sup>*Royal Observatory of Belgium, Ringlaan 3, 1180 Brussels, Belgium*

<sup>2</sup>*Centrum Astronomii UMK, ul.Gagarina 11, PL-87-100 Torun, Poland*

<sup>3</sup>*University of Manchester, School of Physics & Astronomy, P.O. Box 88, Manchester M60 1QD, UK*

<sup>4</sup>*Astrophysics Group, School of Physical and Geographical Sciences, Keele University, Staffordshire ST5 5BG, UK*

<sup>5</sup>*Institute of Astro and Particle Physics, University Innsbruck, Technikerstraße 25, 6020 Innsbruck, Austria*

<sup>6</sup>*European Southern Observatory, Karl-Schwarzschild-Straße 2, D-85748 Garching, Germany*

<sup>7</sup>*Centre for Astrophysics, University of Central Lancashire, Preston PR1 2HE, UK*

When intermediate mass stars reach the final stages of their evolution, they all experience thermal pulses. After the star has experienced a number of these thermal pulses, it will start to heat up, become a planetary nebula, and eventually evolve onto the cooling track to become a white dwarf. It is theorized that about 25% of all objects will experience one final (very) late thermal pulse (VLTP) when they are on the cooling track. Despite this high percentage, this process is only very rarely observed. The discovery of Sakurai's star in 1996 provided the first opportunity in modern times to observe a very late thermal pulse. This object has baffled the scientific community with its very fast evolution. To reproduce this evolution we have proposed a new theoretical model which suppresses convective mixing under the influence of flash burning. A strong prediction of this model is that the star will evolve back to a temperature of 80,000 K within the next 5 to 10 years. In my talk I will discuss the temperature evolution of the central star based on optical and radio observations of the recent ejecta. This discussion will include unpublished data obtained in 2007. I will also briefly discuss the radio evolution of V605 Aql, another VLTP object that shows remarkable similarities to V4334 Sgr which was discovered in 1918.