

## H-DEFICIENT LOW-MASS X-RAY BINARY DONORS

Gijs Nelemans

*Dept. Astrophysics, IMAPP, Radboud University Nijmegen, the Netherlands*  
*nelemans@astro.ru.nl*

Some low-mass X-ray binaries (double stars containing accreting neutron stars or black holes) have orbital periods shorter than about one hour and are called ultra-compact X-ray binaries (UCXBs). This means that the separation between the two stars is so small that ordinary, hydrogen rich, stars do not fit in. Only evolved, hydrogen deficient stars do. This means that in these systems the both the donor stars and accretion discs are expected to have peculiar chemical composition which could give clues for the formation of UCXBs.

I will discuss the importance of these systems for our understanding of binary evolution, accretion disc physics and their use as gravitational wave sources. In addition I will show recent progress in observational as well as theoretical studies of UCXBs, in particular optical and X-ray observations that have been used to determine the chemical composition of these systems.