

V-242 Visit Simon Mandel

The main topic under discussion during the visit of Simon Stevenson and Ilya Mandel (University of Birmingham, UoB) to the Anton Pannekoek Institute at the University of Amsterdam (UvA) was the treatment of mass transfer in binary population synthesis codes, which are used (among other things) to investigate formational channels for gravitational wave events.

Primary outcome of the visit is the formulation of the mass transfer algorithm that will be implemented in the population synthesis code currently under development at the UoB in collaboration with the UvA group. This model allows us to test the effects of varying several uncertain key assumptions in the physics that limits how conservative mass transfer is.

During their visit we also prepared a set of simulations attempting to explain the GW events that have been detected. This paper has now been submitted to Nature Communications, Stevenson, Vigna-Gomez, Mandel, Perkins, Barrett, de Mink (2016), that will likely come out shortly

Furthermore time was spend to exchange expertise concerning the detection of gravitational wave events (lecture by Stevenson) and detailed simulations of single stars and binaries in the stellar evolution code MESA. This visit helped foster close collaborations between the UoB and UvA groups. Concrete plans were made for further collaborative work.