

2017 DDA Special Session 2

Post-main Sequence Planetary System Science

Chair: Dimitri Veras (University of Warwick)

The evolution of planetary systems (planets, asteroids, comets, pebbles, moons) after their parent stars have left the main sequence to become giant stars and white dwarfs has recently gained attention. Over 1000 white dwarfs have been observed to contain rocky debris in their atmospheres, about 40 white dwarfs harbor debris discs -- some of which are eccentric -- and one white dwarf even features an asteroid disintegrating in real time. About 100 planets and several debris discs have also been found orbiting giant and subgiant stars. By merging stellar evolution, planetary dynamics, debris discs, and interior chemistry constrained by Solar System asteroid families, this highly interdisciplinary topic is of growing interest to the dynamics community, since there is a dearth of theoretical models in the face of mounting observational data. In the near future with the additional data anticipated from current and upcoming missions (K2, TESS, HST, Gaia, JWST, LSST, PLATO), firm theoretical foundations need to be established.

Please email session chair Dimitri Veras (University of Warwick) if interested.

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