Helsinki 2017 J. Harju SAEMPL workshop

Occultation of a compact radio source by (372) Palma

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I report on an occultation measurement made using radio interferometric techniques. The occultation of the radio source 0141+268 (a BL Lac type radio galaxy) by the asteroid (372) Palma on May 15, 2017, was observed using 6 antennas of the Very Long Baseline Array (VLBA). The wavelength was 4.2 cm. The geometric shadow crossed one of the antennas, and the diffraction pattern was clearly detected with baselines including this antenna (at radio wavelengths, we are in the interference zone). Besides the intensity, the measurement also recovers the phase of the diffracted wave. This doubles the data with respect to single telescope observations. The observed pattern depends on the size of the asteroid and the distance of the reference antenna from the centre of the shadow. I outline ongoing modelling efforts to interpret the data.