

XV Black Holes Workshop



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P. Garcia: Recent results from the GRAVITY collaboration on SgrA* supermassive black hole

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GRAVITY is the most advanced optical-infrared instrument in a ground-based observatory. It sharpens the light of four giant 8 m telescopes with advanced adaptive optics and combines it interferometrically, achieving exquisite precision. It was central to the experimental breakthrough justifying part of the 2020 Physics Nobel Prize.

We will conduct a review of past achievements of the GRAVITY experiment on the Galactic Centre supermassive black hole since the last Workshop. The deep imaging of the galactic centre and the detection of several stars (S29, S38, and S55) further to S2, constrain the extended mass distribution around the supermassive black hole. Using the orbit of S2 and the dynamics of the S cluster the viability of an intermediate mass black hole in the vicinity of SgrA* is analysed and shown to be only plausible for a close orbit.

Session Classification: Session 2