Contribution ID: **65** Type: **Poster**

Expanding Sgr A* dynamical imaging capabilities with an African extension to the Event Horizon Telescope

Wednesday, 17 May 2023 13:15 (1 minute)

The Event Horizon Telescope (EHT) has recently published the first images of the supermassive black hole at the center of our Galaxy, Sagittarius A^* (Sgr A^*). Imaging Sgr A^* is plagued by two major challenges: variability on short (approximately minutes) timescales and interstellar scattering along our line of sight. While the scattering is well studied, the source variability continues to push the limits of current imaging algorithms. In particular, movie reconstructions are hindered by the sparse and time-variable coverage of the array. In this work, we discuss the impact of the planned Africa Millimetre Telescope (AMT, in Namibia) and Canary Islands telescope (CNI) additions to the time-dependent coverage and imaging fidelity of the EHT array. This African array extension to the EHT further increases the eastwest (u, v) coverage and provides a wider time window to perform high-fidelity movie reconstructions of Sgr A^* . Moreover, I will show that the combination of two telescopes on the African continent, in Namibia and in the Canary Islands, produces a very sensitive array to reconstruct the variability of Sgr A^* on horizon scales.

Primary author: LA BELLA, Noemi (Radboud University)

Presenter: LA BELLA, Noemi (Radboud University)

Session Classification: Poster Prizes & closing