

## ALMA2019: Science Results and Cross-Facility Synergies



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# The Size, Shape, and Scattering of Sagittarius A\* at 86 GHz

Wednesday, October 16, 2019 11:35 AM (15 minutes)

Contributed talk

Abstract:

“High-frequency very-long-baseline Interferometric (VLBI) observations of the Galactic Center supermassive black hole, Sagittarius A (*Sgr A*) have sufficient angular resolution to probe black hole accretion and outflow on event-horizon scales. We present the first unscattered image of *Sgr A* taken at 86 GHz (3.5-mm) using the Global Millimeter VLBI Array (GMVA) joined for the first time by ALMA operating as a phased array in April 2017. The network reaches an angular resolution of 87 micro-arcseconds, improving upon previous experiments by a factor of two, and revealing a nearly isotropic intrinsic source. I will discuss the consequences for underlying accretion and emission models of *Sgr A*, as well as new constraints on the properties of interstellar scattering using baselines to ALMA.”

**Presenter:** Dr BLACKBURN, Lindy

**Session Classification:** Galaxies