

Innsbruck Physics Colloquium

Andreas Eckart
Universität Köln



The nature of the compact mass at the center of the Milky Way

The compact and very massive object located at the center of the Milky Way is currently the very best candidate for a super-massive black hole (SMBH) in our immediate vicinity.

Reinhard Genzel (MPE) and Andrea Ghez (UCLA) were recently awarded the Nobel Prize for exploring this object and its immediate surroundings. I will summarize key results that led to this honor and highlight the Cologne contribution to it. In addition, Roger Penrose (Oxford) was honored for his research on black holes and for his contributions to general relativity.

The strongest evidence for the existence of a SMBH at the Galactic Center is provided by measurements of stellar orbits, variable X-ray emission, and strongly variable polarized near-infrared emission from the location of the radio source Sagittarius[~]A* (SgrA*) in the middle of the central stellar cluster.

I will also explain the latest results obtained with the GRAVITY experiment on the Very Large Telescope Interferometer (VLTI). In the light of the experimental results one can also speculate on the charge and the black hole itself or the charge of orbiting source components.

Background Image:

VLT infrared ALMA submillimeter Chandra X-ray view of the Galactic Center ~ 1.5 arcmin across (11 light years)

Eckart et al. 2019 (UAE Sharjah – FISICPAC Proceedings)

Tuesday, 24.11.2020, at 17:15 h online (link t.b.a.)