Seventeenth Marcel Grossmann Meeting



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Fermi/eRosita Bubbles as relics of the past activity of the Galaxy's central black hole

Wednesday, 10 July 2024 13:00 (30 minutes)

The eROSITA X-ray satellite has revealed two gigantic bubbles extending to ~80° above and below the Galactic center (GC). The morphology of these 'eROSITA bubbles' bears a remarkable resemblance to the Fermi bubbles previously discovered by the Fermi Gamma-ray Space Telescope and its counterpart, the microwave haze. The physical origin of these striking structures has been intensely debated; however, because of their symmetry about the GC, they probably originate from some energetic outbursts from the GC in the past. In this talk, I will review important progress made over the years in terms of understanding their physical origin, and show that the Fermi/eROSITA bubbles likely originate from past activity of the GC black hole, Sgr A. I will discuss the implications of this result, and how it may provide insights into evolution history of Sgr A and our own Galaxy.

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Session Classification: Wednesday plenary session