

NEW GENERAL RELATIVITY TESTS

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In 2019 the Event Horizon Telescope (EHT) team presented the first image reconstruction around the shadow for the supermassive black hole in M87*. In 2022 the Event Horizon Telescope (EHT) team reconstructed the shadow for the Galactic Center. In 2005 we predicted that the shadow could be reconstructed from analysis of synchrotron emission in mm band and this prediction was realized in 2022. Based on results of the shadow size evaluation for M87* done by the EHT team we constrain a tidal charge. Similarly we constrain a tidal charge for the black hole at the Galactic Center based on shadow reconstruction done by EHT. We discuss opportunities to use shadows to test alternative theories of gravity and alternative theories for galactic centers.