

**BLACK HOLES AS THE MOST ATTRACTIVE
ASTRONOMICAL OBJECTS (THE NOBEL PRIZE IN
PHYSICS IN 2020)**

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Many alternative theories of gravity have emerged and the emergence of at least part of these theories has been associated with attempts to explain the problems of dark matter and dark energy by changes in the law of gravity. We discuss the possibilities of using bright star observations near the Galactic Center to test the predictions of general relativity and obtain constraints on the parameters of alternative theories of gravity. We discuss black hole investigations that were awarded the Nobel prize in physics in 2020 and a connection between our works with these studies.