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Title: Orbital precession of the S2 star in Scalar-Tensor-Vector-Gravity

Abstract: We have obtained the first constraint of the parameter space of Scalar-Tensor-Vector-Gravity using the motion of the S2-star around the supermassive black hole at the centre of the Milky Way, and we did not find any serious tension with General Relativity. We used the Schwarzschild-like metric of Scalar-Tensor-Vector-Gravity to predict the orbital motion of S2-star, and to compare it with the publicly available astrometric data, which include 145 measurements of the positions, 44 measurements of the radial velocities of S2-star along its orbit, and only the inferred rate of precession, as the latest GRAVITY data are not yet public. We employed a Monte Carlo Markov Chain algorithm to explore the parameter space, and constrained the only one additional parameter of Scalar-Tensor-Vector-Gravity to  $\alpha \leq 0.662$  at 99,7% confidence level, where  $\alpha = 0$  reduces this modified theory of gravity to General Relativity.