

Is it possible to detect the intermediate mass black holes in centers of globular clusters with the help of milliseconds pulsars?

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The possibility of the detection of intermediate mass black holes ($1000\text{--}10000\ M_{\odot}$) using the timing analysis of millisecond pulsars is discussed. The existence of such black holes in centers of globular clusters is expected from optical and infrared observations. A signal, emitted by a pulsar, will be a subject of relativistic time delay connected with trajectory curvature and the Shapiro effect. The relative contribution of these components depends on the value of the dimensionless impact parameter. We consider different pulsar positions relative to a globular cluster. For several millisecond pulsars in globular clusters, located most closely to cluster centers, the expected time delays and corresponding duration of observations, required for their registration, are calculated.