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Hunt for Intermediate Black Holes with Gravitational Waves and Neutrinos

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Intermediate mass black holes (IMBHs) have been theorized as an intermediate state between stellar and supermassive black holes (SMBHs), but not observations have confirmed their existence yet. We propose a method to search for them using Tidal Disruption Events (TDEs). In particular we focus on the disruption of white dwarfs (WDs) by IMBHs, as they are expected to produce both gravitational waves (GWs) and high energy neutrinos. This is particularly interesting because WDs cannot be disrupted by a SMBH. We present an introductory study on this method and future prospects.

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