

## Catching black holes with tidal disruption events

*jeudi 1 avril 2021 14:00 (15 minutes)*

Tidal disruption events (TDEs) take place when a star orbiting around a black hole (BH) is fully or partially disrupted by the black hole tides. This occurrence can be used as a way to reveal the presence of quiescent BHs through the Universe. With this talk, I will first describe general features of TDEs. Then, I will explore the possibility of detecting them via gravitational waves (GWs) with future space-based interferometers. Finally, I will illustrate how the GW background from these events could allow us to better constrain the elusive population of intermediate-mass BHs and to map their distribution up to redshift 3.

**Auteur principal:** TOSCANI, martina (Università degli studi di Milano)

**Co-auteurs:** Prof. LODATO, Giuseppe (Università degli Studi di Milano); Prof. ROSSI, Elena Maria (Leiden Observatory)

**Orateur:** TOSCANI, martina (Università degli studi di Milano)

**Classification de Session:** Contributed talks: Multi-messenger signals