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Black Hole Close Hyperbolic Encounters

Tuesday, 11 October 2022 11:30 (45 minutes)

There is evidence and theoretical reasons to believe that Black Holes can be densely clustered. Black holes in these dense clusters can gravitationally scatter off each other in hyperbolic encounters, emitting gravitational waves that could be observed by current detectors. In this talk we will discuss about the properties of these encounters as well as about the gravitational waves that are emitted and the signal we expect to observe in the network of gravitational wave detectors currently on Earth. We will also talk about how black holes can acquire a significant spin during these close hyperbolic encounters and its possible implications

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