

UM Physics Department

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Title: GW190521: an “Impossible” Binary Black Hole.

Abstract:

With the first direct observation of gravitational waves (GW) on September 14, 2015, the advanced GW detectors opened new possibilities to explore our Universe. This first GW signal was not from a much-anticipated binary neutron stars (BNS), but from a quite unexpected merger of binary black holes (BBH). Now, five years later, the GW detectors have recorded two BNS and more than 50 BBH signals, including GW190521 - a missing link between stellar-mass black holes and supermassive black holes. This is another unexpected BBH event, which is not possible to be formed by the evolution of isolated massive stars. I will talk about LIGO and observation of the most massive BBH event informing our understanding of the evolution of the most massive stars and the growth of massive black holes.