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Power gap dependance on equation of state and other microphysics

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Gravitational waves are an important messenger to observe the first milliseconds of a core-collapse supernova, as radiations are still trapped and cannot convey any signal from the deeper part of the explosion. As such detections are only possible in the context of a galactic supernova, we have not yet been able to observe GWs from CCSN, and thus need to rely on simulations to decipher the potential signature of physical events. The so-called power gap is one of these signatures. In this talk, I will present an analysis of a set of 14 2D simulations varying the neutrino interactions formalism, transport, inclusion of axions, and EOS. These differences will help us determine if the power gap can be a clear signature of the internal microphysics of the CCSN.

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