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Impact of axions on the minimum mass of Core Collapse Supernova progenitors

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In this project we include axions on stellar evolution models, adopting the current stringest constraints for their coupling to photons and electrons. We obtain that the minimum stellar mass of Core Collapse Supernova (CCSN) progenitors is shifted up by nearly 2 Mo.

Although theoretical and observational uncertainties do not allow us to impose reliable constraints to axions properties based on this result, it may be in tension with the observed minimum mass of CCSNe progenitors.

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