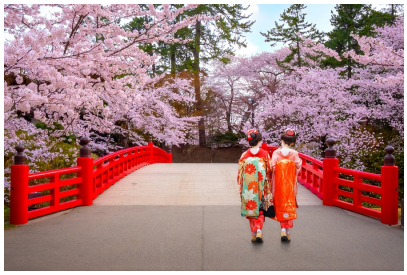

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Detection of Supernova Neutrinos with KM3NeT

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The discovery of 25 neutrinos coming from the SN1987A core-collapse supernova (CCSN) by the Super-Kamiokande, IMB and Baksan experiments marked the beginning of neutrino astronomy. A new observation of supernova neutrinos with current or upcoming detectors could provide key insight into the underlying mechanism of CCSNe, which is currently poorly understood. Due to the low interaction rate of neutrinos, these detectors are however only sensitive to supernovae occurring in our galaxy or its immediate surroundings. Since such events are quite rare, it is crucial to optimize the detection channels of all sensitive experiments. In this contribution, we discuss the current supernova detection and characterization techniques of the KM3NeT telescopes, ARCA and ORCA, currently under construction and taking data in the Mediterranean Sea. We demonstrate how KM3NeT's optical module design will allow the detector to be sensitive to most supernovae in the galaxy, and to characterize neutrino emission spectra and luminosity curves. Finally, we discuss KM3NeT's contributions to thethe SuperNova Early Warning System (SNEWS), notably for triangulation analyses.

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