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Pacific Ocean Neutrino Experiment: overview and recent developments

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The Pacific Ocean Neutrino Experiment (P-ONE) is an initiative to construct a multi-cubic-kilometre neutrino telescope in the depths of the Northeast Pacific Ocean.

P-ONE aims to complement the existing neutrino observatories and probe high-energy astrophysical neutrinos, providing insights into the southern celestial hemisphere, including the Galactic Plane. Capitalising on the established deep-sea infrastructure of Ocean Networks Canada, P-ONE has already conducted two successful pathfinder missions to assess environmental conditions, such as water optical properties, and background bioluminescence. Building on these efforts, the P-ONE collaboration has been working towards the realisation of the first detector line, emphasising modularity and scalability while addressing the challenges of the deep-sea environment. Planned for deployment in 2025, this detector line represents a significant step in P-ONE's roadmap. This talk will provide an overview of the development, as well as P-ONE's scientific objectives and vision.

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