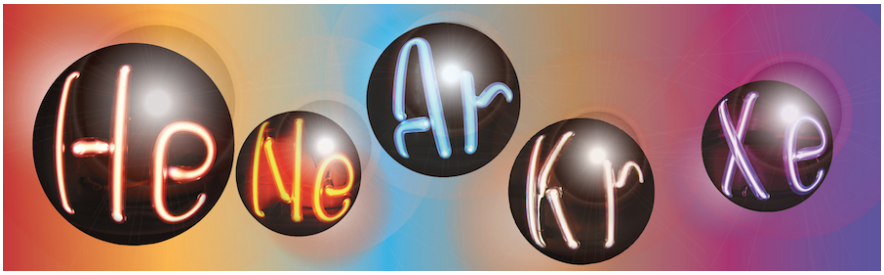

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The COLINA experiment

The COLINA project is developing a novel frustum-shaped time projection chamber (TPC) for the detection of Coherent Elastic Neutrino–Nucleus Scattering (CEvNS) in liquid noble media at the European Spallation Source.
The detector concept employs a conical TPC geometry in which ionization electrons released in the active volume are focused into a small region, where they are amplified through electroluminescence (EL) directly in the liquid phase. With this design, the EL region is kept small, mitigating the scalability problems related to EL production in liquid phase, while maintaining a large target volume.

COLINA includes an extensive R&D program to evaluate and optimize the detector design, including the electric field configuration, charge transport and focusing, the EL amplification structure and the active medium.

In this contribution, we will present the COLINA project with a strong focus on the planned R&D activities supporting the development of the experiment.

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