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Status and Future of Neutrino Physics with Scintillator-Based Detectors — •Livia Ludhova — Forschungszentrum Jülich, Wilhelm-Johnen-Straße, 52428 Jülich and RWTH Aachen, Otto-Blumenthal-Straße, 52074 Aachen

The liquid-scintillator detection technique has gained a fundamental role in neutrino physics. High light yield, and thus a possibility of low-energy threshold and a good energy resolution, are fundamental in a wide variety of applications. With its use in the detection of reactor antineutrinos, KamLAND provided one of the first observations of neutrino oscillations. When combined with extreme radio-purity, as achieved by Borexino, solar-neutrino spectroscopy below 1 MeV became a reality. Geo-neutrinos, messengers about the radioactive decays inside the Earth, have been detected as well in liquid scintillator detectors. The recent discovery of non-zero $\theta 13$ mixing angle by Daya Day was based on the same detection technique. Liquid scintillators, when doped with special isotopes, are entering in the field of neutrinoless double-beta decay search, as KamLAND using 136Xe. There are several future projects based on liquid-scintillator detectors in different stages of their proposal and/or construction. SNO+, opting for 130Te-loaded scintillator, should come on scene in a near future. The first detector exceeding the existing 1-kton scale, is the JUNO 20 kton detector, which is planning to start taking data in 2020. The talk will review the status and prospects of the neutrino physics based on the liquid-scintillator detection technique.