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## The WAGASCI experiment at JPARC to measure neutrino cross-sections on water

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In the T2K experiment, the far detector, Super-Kamiokande, observes neutrino interactions on water while the near detectors are mainly constituted of plastic. The uncertainty due to the difference of target materials is one of major systematic uncertainties in the T2K neutrino oscillation analyses. A new neutrino detector named WAGASCI has been developed to measure the cross section ratio of neutrino (and antineutrino) interactions with water and plastic targets with a large angular acceptance. The experiment will be situated at the JPARC near detector station. The water sections of the WAGASCI detector consists of 80% water within a mesh of 3-mm thick plastic scintillators assembled into a 3D grid-like structure. The scintillator is read-out with Wave-length shifting fibers connected to new Multi-Pixel Photon Counters (MPPCs) with low crosstalk rate and high photon detection efficiency (PDE). The experiment is complemented with an instrumented muon range detector comprising a magnetic spectrometer (Baby-MIND).

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