

RPCs for the SND Muon System of the SHiP experiment

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SHiP (Search for Hidden Particles) is a proposed beam dump experiment at CERN SPS, with the aim of exploring the so-called Hidden Sector. Since a large neutrino flux is expected to be produced at the beam dump, the experiment could also allow for the study of neutrino physics with unprecedented statistics. A dedicated Scattering and Neutrino Detector (SND), equipped with a downstream Muon Identification System, is thus being designed. The SND muon detector consists of iron filters interleaved with tracking planes, based on RPC technology. Each muon plane has an active area of about (2 x 4) m² and consists of three large gaps read out by two panels of perpendicular strips. The SHiP RPCs have to provide a uniform spatial response as well as high efficiency. The design of the SND muon system, based on RPCs, is presented and the performance of a prototype for SHiP RPCs is discussed.

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