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The high-intensity muon beam line (HiMB) project at PSI

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At the Paul Scherrer Institut (PSI) muon rates of up to 4x10ˆ8 mu/s are available, produced by its 1.4 MW proton accelerator complex HIPA. While these are currently the highest muon rates available worldwide, projects in the US and Japan are underway that will be able to surpass these intensities by several orders of magnitude.
In order to maintain PSI's position at the intensity frontier in muon physics and to utilize the unique DC machine structure, a project has started to assess the possibility of creating a next-generation muon beam by modifying the existing Target M station. Initial studies showed that surface muon rates of the order of 10ˆ10 mu+/s can be achievedby placing two normal-conducting capture solenoids close to a slanted slab target and transporting the muons to the experimental areas with a beamline consisting of large-aperture solenoids and dipoles. This contribution will present these studies and the current status of the project.

Working group

WG4

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