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## A new muon beam line for fundamental physics study in J-PARC

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Since the first beam in 2008, Muon Facility in J-PARC has been operated, and the surface muon beam intensity reached at the  $3E+6/s$ , the most intense pulsed muon beam in the world, under 200-kW proton beam. From the existing 2-cm thick graphite target, four secondary muon beam lines are able to be extracted to the experimental areas.

Three beam lines were constructed and under operation.

They are dedicated to material science.

The last beam line is planned to be constructed.

This beamline is designed to have a large acceptance, momentum tunability, and ability to install a kicker and a Wien

filter, and will provide an intense beam for fundamental study in the field of elementary particle physics.

Such a study needs to occupy the experimental area for a long time in comparison with material-science programs.

The fourth beam line is constructed to answer such demands.

The details of the beamline design and the construction schedule will be presented.

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