

# Muon Science at D2 experimental area at MLF, J-PARC

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At the D2 experimental area in Muon Science Establishment (MUSE) of MLF, J-PARC, we have a variety of experiments related to muons, which include elemental analysis with muonic x-rays on cultural heritages [1] and the returned sample from an asteroid [2], fundamental physics experiment such as measurements of muonic atom ground-state hyperfine structure [3], muon catalyzed fusion ( $\mu$ CF)[4] and atomic physics with muonic atom [5]. We have also some industrial usage such as research on soft errors [6].

In order to obtain these fruitful research results, we have developed a muon beam at D-line in a wide momentum range between 4.5-120 MeV/c and for both positive and negative muons [7]. We will introduce the specification of the muon beam obtained at the D2 experimental area.

## References

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