Stopping of Negative Muons in Helium-3 and Deuterium

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Stopping power ratio of helium-3 and deuterium atoms for muons slowed down in D/^{3}He mixture was measured using 34.0 MeV/c muon beam at PSI meson factory [1]. Four ^{3}He targets with different gas densities and one D/^{3}He target with helium atomic concentration $c_{He} = 0.05$ were used. We present the measurement method and the analysis of experimental data. The value of the measured mean stopping ratio $S_{^3He/D}$ is 1.66 ± 0.04.

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[1] V.M. Bystritsky *et al.*, Eur. Phys. J. D **42** 79 (2007).