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【334】 The development of a high brightness muonium beam

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Muonium, which is a bound state between an antimuon and an electron, is a promising tool to measure the gravitational interaction of antimatter and a second generation particle. To obtain a high muonium formation rate, a superfluid-helium (SFHe) thin film will be used as a target. As the first step to build the high brightness muonium beam, this talk presents the first experiment of muonium formation in bulk SFHe at temperature down to 0.26 K performed in 2017. The results of the dependence of the muonium formation rate on temperature, magnetic and electric field are discussed.

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