

Area Seminar

Title Status report of the laser cooled Fr EDM experiment at CYRIC

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Area Theoretical Physics

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Abstract A permanent electric dipole moment (EDM) of the elementary particles has been drawing attention as a probe for the new physics beyond the standard model (SM) in the recent decades. We are constructing Fr beam line for the electron EDM (e-EDM) measurement at Cyclotron and Radioisotope center (CYRIC), Tohoku University. Francium (Fr) being the heaviest alkali atom has a large enhancement factor of about 900 for e-EDM. Moreover, laser cooling and trapping technique dramatically elongates the interaction time with an external electric field by two or three orders of magnitude, when compared to the conventional atomic beam experiments. I shall report the current status of the development of the Fr beam line and Magneto optical trap systems for the e-EDM search.