

Abstract Submitted
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Dual Species Noble Gas Nuclear Spin Polarizer for a New Search for the Atomic EDM of Xe-129 at FRM-II (Munich Research Reactor) JARED COHN, DANIEL COULTER, DUSTIN FRISBIE, STEVEN FROMM, JAKE HUNEAU, TENZIN RABGA, WALTER UNDERWOOD, JAIDEEP SINGH, National Superconducting Cyclotron Laboratory, PETER FIERLINGER, EVA KRAEGELOH, FLORIAN KUCHLER, TOBIAS LINS, MIKE MARINO, JONAS MEINEL, BENJAMIN NEISSEN, STEFAN STUIBER, Technische Universitaet Muenchen, ISAAC FAN, WOLFGANG KILIAN, SILVIA KNAPPE-GRUENBERG, LUTZ TRAHMS, Physikalisch-Technische Bundesanstalt, TIM CHUPP, SKYLER DEGENKOLB, NATASHA SACHDEVA, FEI GONG, University of Michigan, EARL BABCOCK, Juelich Center for Neutron Science, FIERLINGER GROUP TEAM¹, CHUPP LABORATORY TEAM², PHYSIKALISCH-TECHNISCHE BUNDESANSTALT COLLABORATION, JUELICH CENTER FOR NEUTRON SCIENCE COLLABORATION — Electric dipole moments are believed to be very sensitive probes of CP violation beyond the Standard Model. A new search for the atomic electric dipole moment of Xe-129 is currently underway at FRM-II in Munich. Our technique takes advantage of a state of the art magnetically shielded room, ultra-sensitive magnetometry using SQUIDs, and control of systematics using a He-3 co-magnetometer. Our goal is an order of magnitude improvement over the previous Xe-129 atomic EDM limit. We will describe the design and construction of a noble gas polarizer using spectrally-narrow diode lasers.

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