Abstract Submitted
for the DNP15 Meeting of
The American Physical Society

A new measurement of the 129Xe EDM TIMOTHY CHUPP, SKYLER DEGENKOLB, NATASHA SACHDEVA, University of Michigan, JARED COHN, JAKE HUNEAU, JAIDEEP SINGH, Michigan State University - NSCL, PETER FIERLINGER, EVA KRAGELOH, FLORIAN KUCHLER, TOBIAS LINS, MIKE MARINO, JONAS MEINEL, BENJAMIN NIESSEN, STEFAN STUIBER, MICHAEL STURM, Technical University of Munich, MARTIN BURGHOFF, ISAAC FAN, WOLFGANG KILIAN, SILVIA KNAPPE-GRUENEBERG, ALLARD SCHNABEL, FRANK SIEFERT, LUTZ TRAHMS, JENS VOIGT, PTB, Berlin, EARL BABCOCK, ZAHIR SALHI, Forschungszentrum Jülich, GmbH, HEXE EDM COLLABORATION — Although neutron, atom and molecular EDM measurements have set only upper limits, the motivation for more sensitive searches is stronger than ever. A recent global analysis of EDM results shows that the 95% CL upper limit of 6×10^{-27} e-cm for ^{129}Xe contributes to constraining several CP violating parameters and that improved sensitivity further probes beyond-Standard-Model CP violation. In a new effort using a ^{3}He co-magnetometer, the gas mixture is polarized by spin-exchange optical pumping and then transferred to a cell in the FRM-II high-performance magnetically shielded room, where a SQUID magnetometer array measures the spin precession. Recent tests indicate EDM sensitivity $< 10^{-28}$ e-cm in one-day.

Timothy Chupp
University of Michigan

Date submitted: 01 Jul 2015 Electronic form version 1.4