Abstract Submitted
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Exotic physics by-products of neutron edm searches BEATRICE FRANKE, TRIUMF, Vancouver, Canada — The search for the neutron electric dipole moment (edm) is a highly sensitive precision measurement. There are several efforts world-wide in order to search for this elusive quantity: predictions by the standard model of particle physics are $\sim 10^{-32}\,e$cm. However, beyond standard model theories (BSM) predict much larger neutron edms, resulting from additional CP violating processes necessary to better understand the strong CP problem and in particular the baryon asymmetry observed in our universe. Some predictions are very close to the current upper limit of $3 \cdot 10^{-26}\,e$cm [1], and within "arm's reach" of ongoing experimental efforts. The involved highly sensitive setups also give access to investigate other intriguing beyond standard model predictions, as has been shown previously for mirror neutron oscillations [2], Lorentz violation [3], and axion-like particle searches [4], among others. A brief overview shall be given of what has been achieved so far in different experiments, as well as show which of those investigations could be of interest for upcoming neutron edm spectrometers. [1] Pendlebury et al. Phys Rev D 92 (2015) 092003 [2] Altarev et al. Phys Rev D 80 (2009) 032003 [3] Altarev et al. EPL 92 (2010) 51001 [4] Afach et al. PLB 745 (2015) 58

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