Abstract Submitted
for the NWS14 Meeting of
The American Physical Society

**Two Higgs Doublets and CP Violation**[1] SEYDA IPEK, University of Washington — Electroweak Baryogenesis, a way to explain matter/anti-matter asymmetry, needs a first order electroweak phase transition as well as CP violation. The Standard Model can not accommodate these two properties. Adding a second Higgs field to the Standard Model is shown to give a first order phase transition. I consider CP violation in this extended Higgs sector. The amount of CP violation one can get from new physics is constrained by the electron electric dipole moment. Taking the electric dipole moments into account, CP violation of $\mathcal{O}(0.01)$ is allowed in the two Higgs doublet model. This CP violation could explain the matter/anti-matter asymmetry in the Universe.

[1]This work was supported in part by the U.S. Department of Energy under Grant No. DE-FG02-96ER40956.

Seyda Ipek
University of Washington

Date submitted: 13 Mar 2014 Electronic form version 1.4