TEP Seminar

UCLA

SPECIAL: Friday, January 26th @ 10:30am Schwinger Lounge

"Anomalies of 4d Spin_G Theories"

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Abstract: We consider 't Hooft anomalies of four-dimensional gauge theories whose fermion matter content admits $\text{Spin}_{G}(4)$ generalized spin structure. We discuss methods to directly compute $w_2 \cup w_3$ 't Hooft anomalies involving Steifel Whitney classes of gauge and flavor symmetry bundles that such theories can have on non-spin manifolds, e.g. $M_4 = CP^2$. Such anomalies have been discussed by Cordova and Dumitrescu for SU(2) gauge theory with adjoint fermions, where they were shown to give an effect that was originally found in the Donaldson-Witten topological twist of N = 2SYM theory. We directly compute these anomalies for a variety of theories. We further discuss aspects of matching these and other 't Hooft anomalies in the IR phase where global symmetries are spontaneously broken.