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Model independent analysis of the forward-backward asymmetry of top quark production at the Tevatron

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Motivated by a possible anomaly in the forward-backward (FB) asymmetry of top quark (A_FB) observed at the Tevatron, we perform a model independent analysis on qqbar -> ttbar using an effective lagrangian with dim-6 four-quark operators.
We derive necessary conditions on new physics structures and the couplings that are consistent with the $t\bar{t}$ production cross section and A_FB measured at the Tevatron, and discuss possible new physics scenarios that could generate such dim-6 operators.

Author: Prof. KO, Pyungwon (KIAS)

Co-authors: Dr JUNG, Dong-Won (Physics Department and CMTP, National Central University, Jhongli, Taiwan, 32054); Dr LEE, Jaesik (Physics Division, National Center for Theoretical Sciences, Hsinchu, Taiwan 300); Dr NAM, Soo-hyeon (Korea Institute of Science and Technology Information, Daejeon 305-806, Korea)

Presenter: Prof. KO, Pyungwon (KIAS)

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