Optimizing Polar Asymmetry Observables at Colliders SANTOSH
ADHIKARI, Southern Methodist University — Polar angle asymmetries are simple,
intuitive, model-independent observables for spin identification of new physics at
colliders. We argue that the second moment of the normalized polar differential
cross section is typically optimal in the case of Drell-Yan boson resonances at pp
colliders. Our arguments are based on explicitly investigating a range of angular
weight functions of the decay of spin 0,1,2 bosons to massless spin 1/2 or 1 particles.

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