Increasing the Model Agnosticity of Weakly Supervised Anomaly Detection

Thorben Finke [1] Joep Geuskens [1] **Marie Hein** [1] Gregor Kasieczka [2, 3] Michael Krämer [1] Alexander Mück [1] Parada Prangchaikul [2] Tobias Quadfasel [2] David Shih [4] Manuel Sommerhalder [2]

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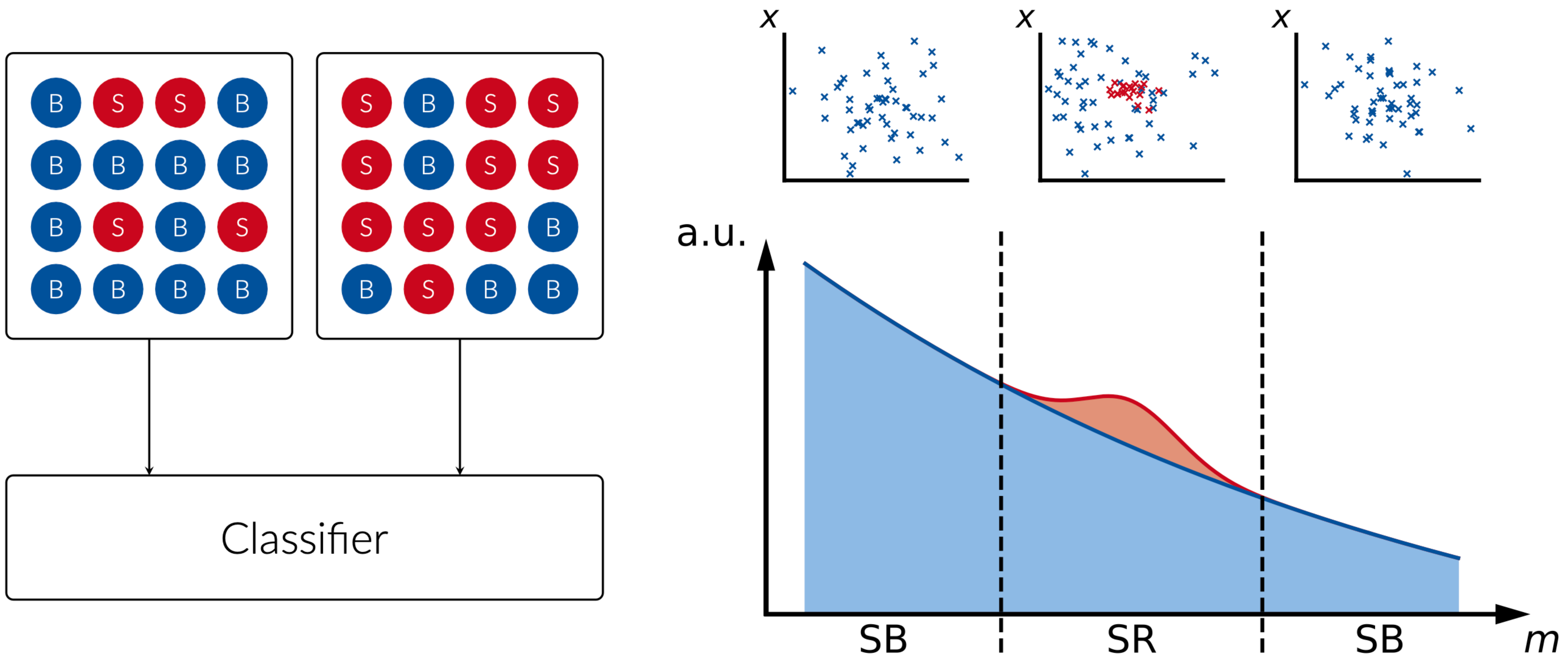
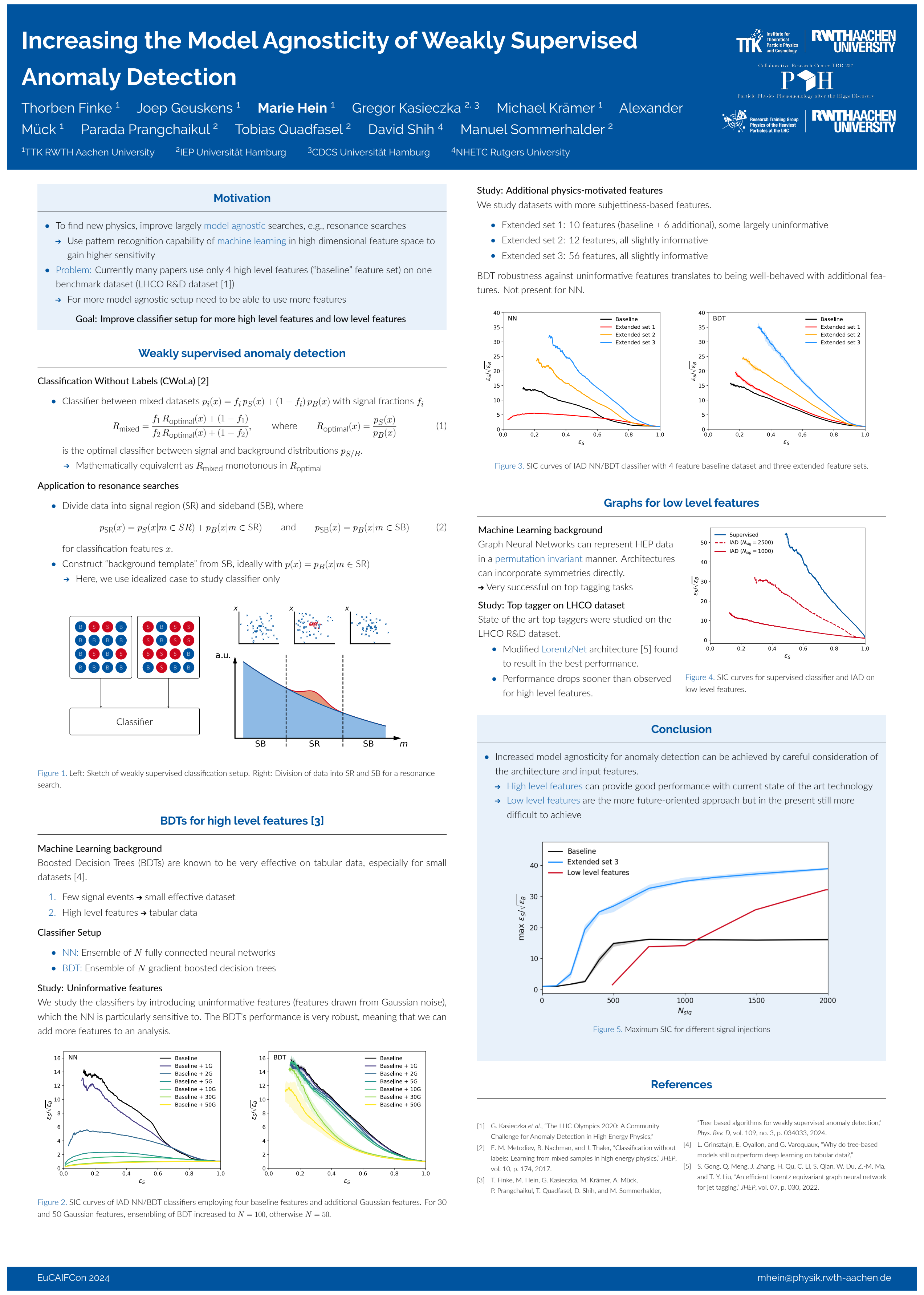
Collaborative Research Center TRR 257
Particle Physics Phenomenology after the Higgs Discovery
Research Training Group Physics of the Heaviest Particles at the LHC





Weakly supervised anomaly detection can be applied to resonance searches to find BSM physics.

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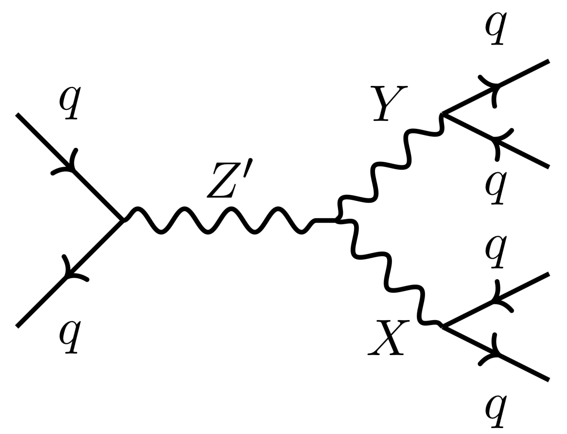
LHCO R&D dataset

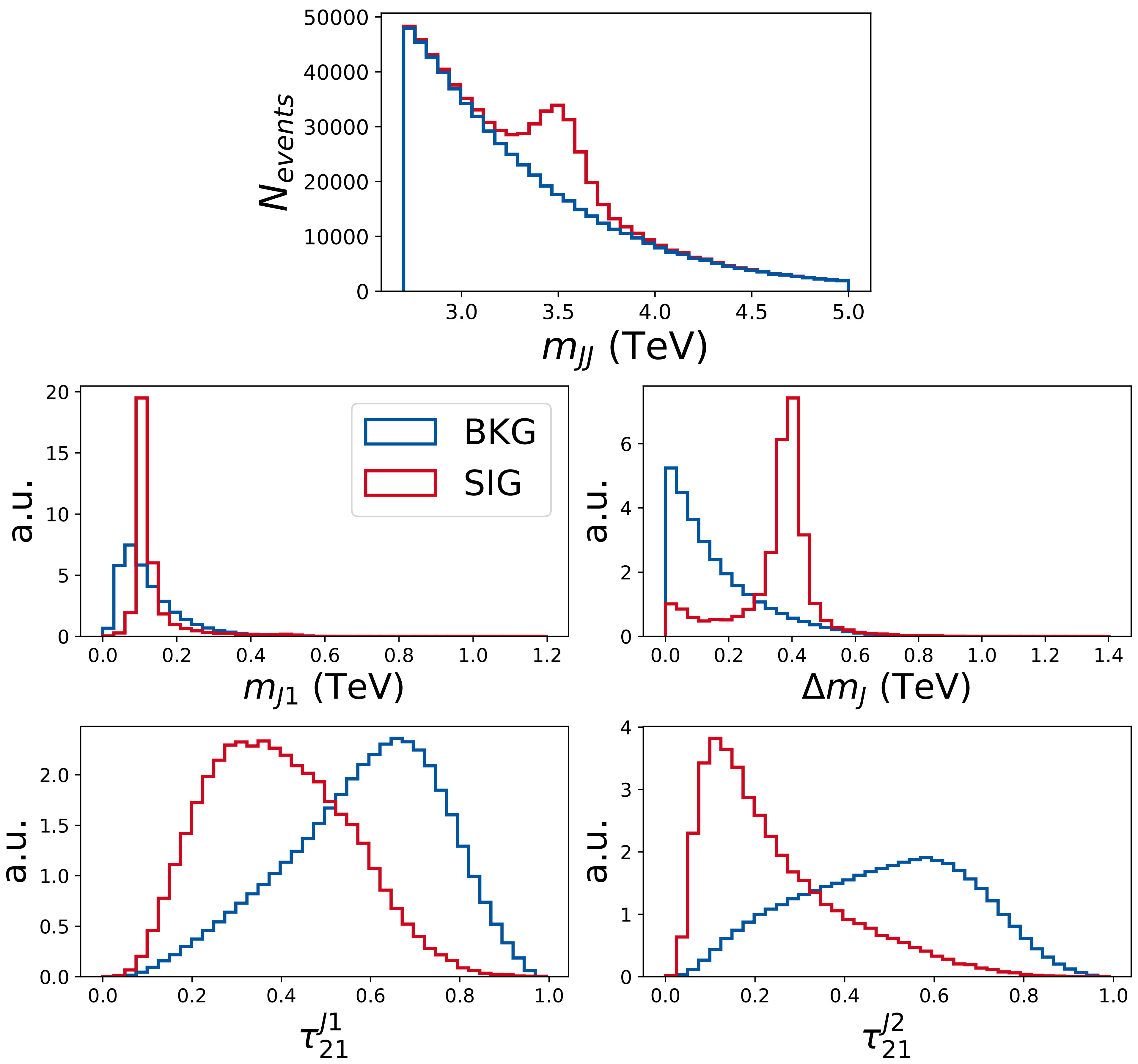
Background: QCD dijets

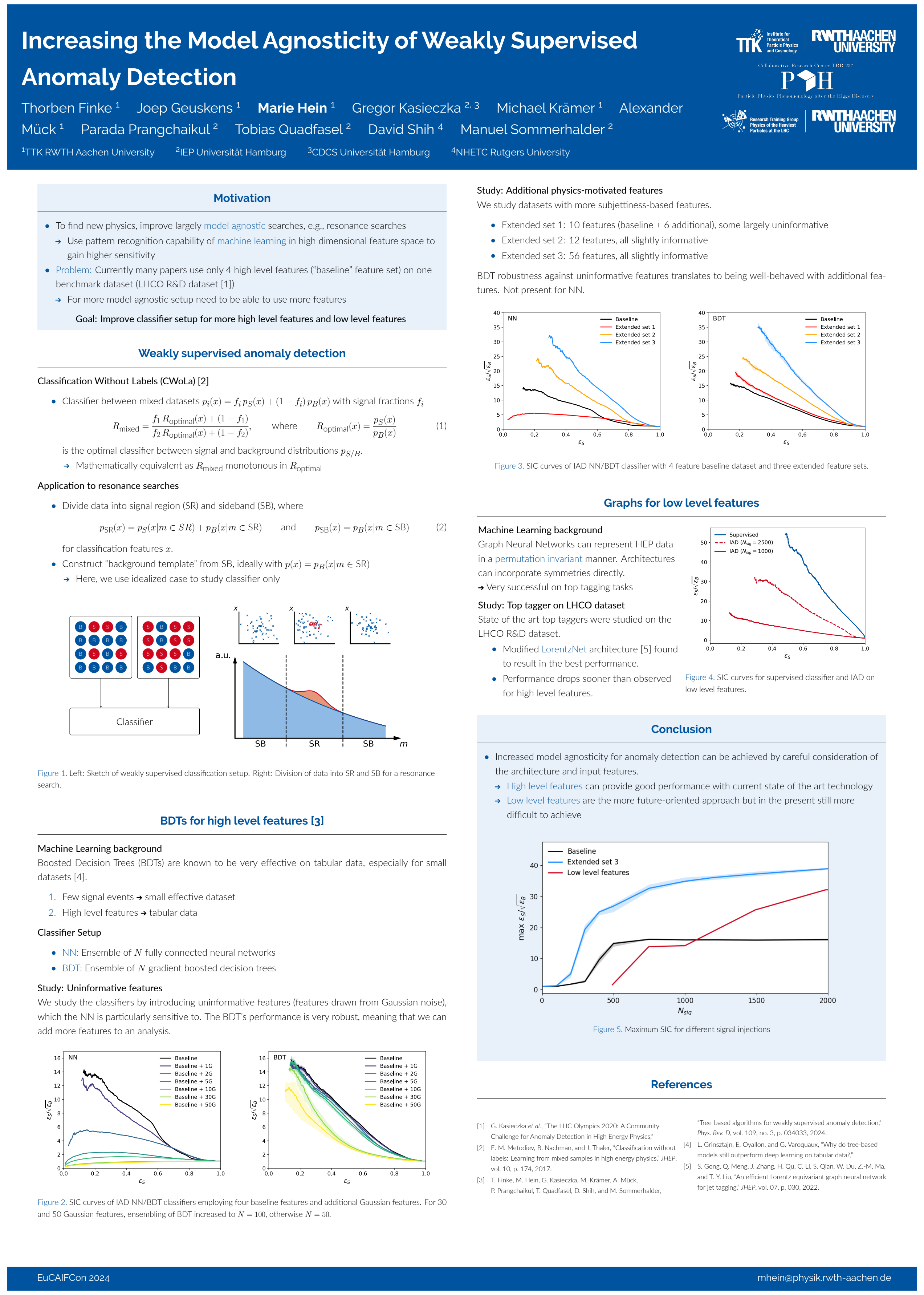
Signal:



Usual features for weak supervision papers

$\Rightarrow$ not very model agnostic





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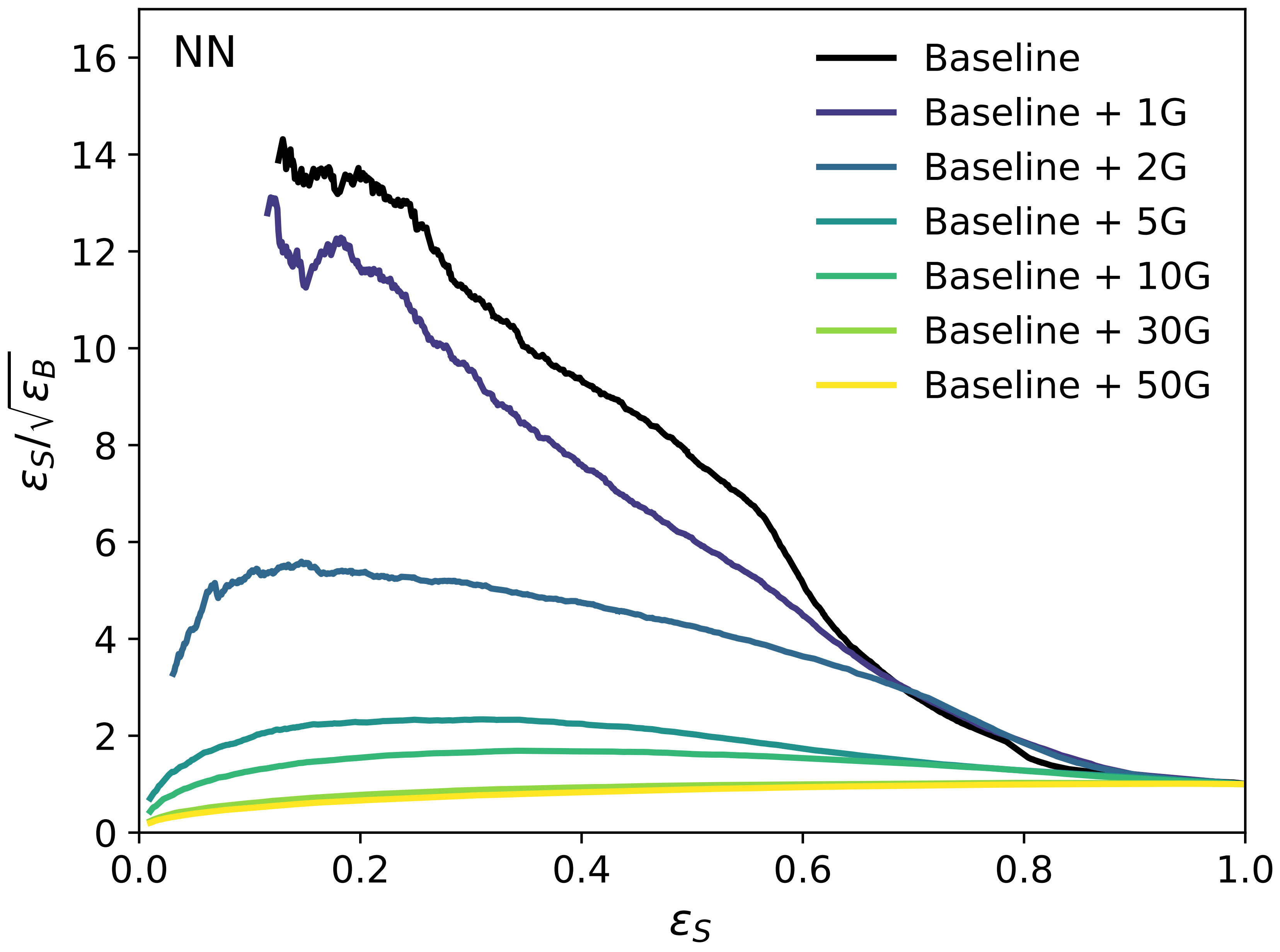

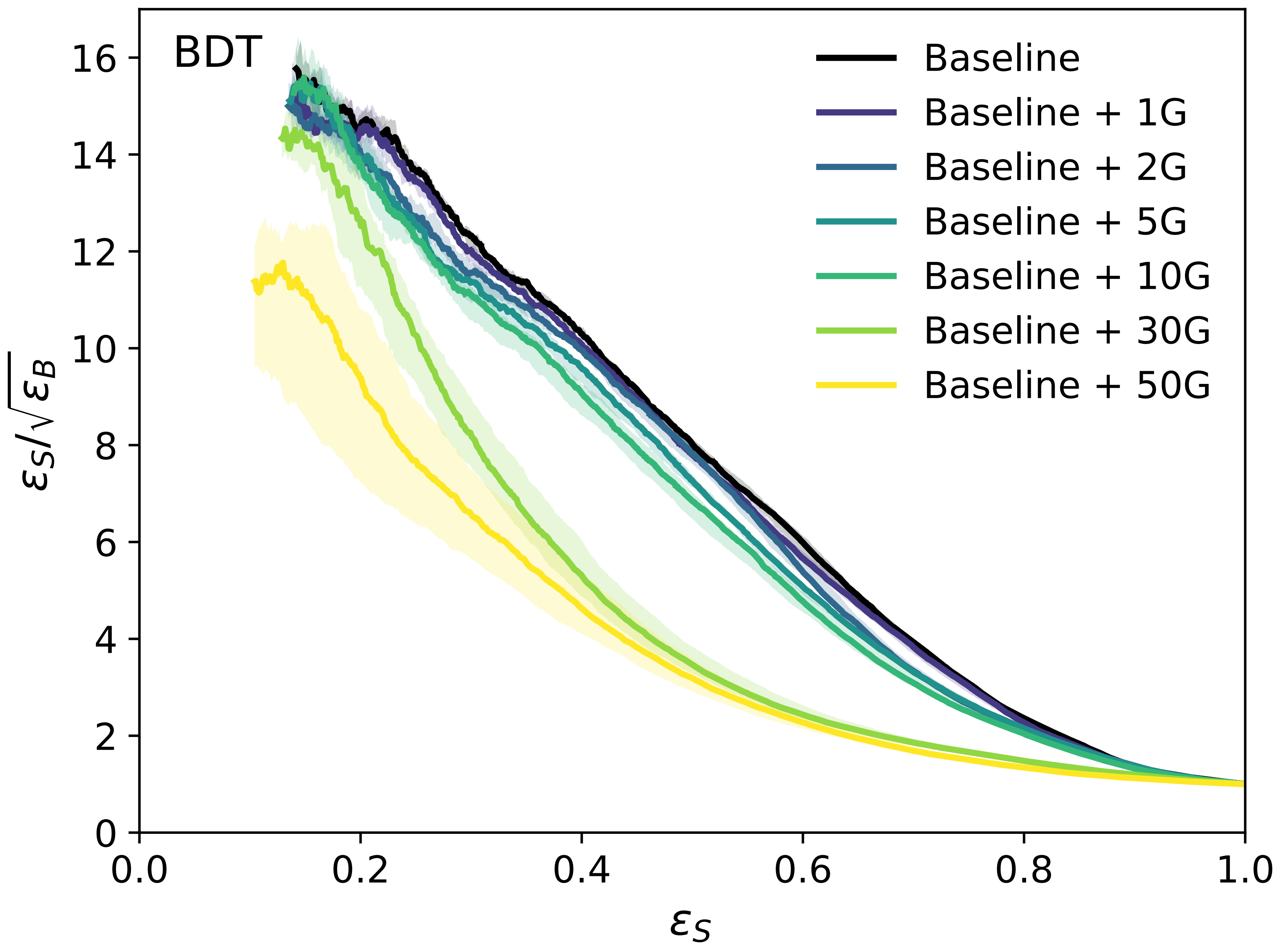

To include more features, robustness against uninformative features is necessary, which is not present for NNs.