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Increasing the model agnosticity of weakly supervised anomaly detection

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Weakly supervised methods have emerged as a powerful tool for anomaly detection at the LHC. While these methods have shown remarkable performance on specific signatures, their application in an even more model-agnostic manner requires using higher dimensional feature spaces compared to the first publications on this topic. We present two directions towards more model agnosticity, either by including more hand-crafted high-level features or by using low-level features like four-momenta. Although both directions are challenging in the weakly supervised setup, we present powerful classification architectures which can obtain the significance enhancement necessary for a potential discovery of new physics.

Primary author: HEIN, Marie (RWTH Aachen University)

Presenter: HEIN, Marie (RWTH Aachen University)

Session Classification: 4.1 Pattern recognition, Image analysis & Uncertainty quantification

Track Classification: Session B