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Identifying the many faces of EW jets

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Microscopic BSM dynamics can be encoded in a small set of parameters controlling deformations from the SM. I argue that sensitivity to BSM physics can be boosted with observables that discriminate longitudinal and transverse production of EW vectors. This is well studied in leptonic decays, but recently, with the help of energy correlators, studies started to target hadronic decays.

I show that the kinematics of the one- and two-point energy correlators of the hadronic decay of an electroweak vector can discriminate between longitudinal and transverse modes and reveal the interference pattern between different vector polarizations.

Such observables improve the sensitivity to microscopic new physics affecting the production rate of the different helicities. We assess the impact on higher dimensional EFT operators in simple scenarios.

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