

# DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 221

Type: **Parallel talk**

## Determining the CP Property of $ht\bar{t}$ Coupling via a Novel Jet Substructure Observable

*Tuesday, 28 March 2023 16:30 (20 minutes)*

Determining the CP property of the Higgs boson is important for a precision test of the Standard Model as well as for the search for new physics. We propose a novel jet substructure observable based on the azimuthal anisotropy in a linearly polarized gluon jet that is produced in association with a Higgs boson at hadron colliders, and demonstrate that it provides a new CP-odd observable for determining the CP property of the Higgs-top interaction. We introduce a factorization formalism to define a polarized gluon jet function with the insertion of an infrared-safe azimuthal observable to capture the linear polarization.

### Submitted on behalf of a Collaboration?

No

### Participate in poster competition?

No

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**Session Classification:** WG3

**Track Classification:** WG3: Electroweak Physics and Beyond the Standard Model