

## 2d 't Hooft anomaly, orbifolding, and boundary states

*Wednesday, 4 December 2019 16:50 (15 minutes)*

We study anomalies for a discrete internal global symmetry  $G$  in two-dimensional conformal field theories based on twisted torus partition functions. The 't Hooft anomaly of  $G$  can be seen from the noncommutativity of two symmetry lines inserted along the nontrivial circles of two-torus and we propose a criterion to detect the 't Hooft anomaly, which agrees with the truncated modular  $S$ -matrix approach as well as the cohomology classification. The obstruction for orbifolding has been recently interpreted as a mixed anomaly between  $G$  and large diffeomorphisms. We clarify the relations among 't Hooft anomaly-free, orbifolding condition and invariant boundary state condition, focusing on Wess-Zumino-Witten models.

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**Session Classification:** Short talks