

Renormalised 3-point functions of stress tensors and conserved currents in CFT

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ABSTRACT:

We present a complete momentum-space prescription for the renormalisation of tensorial correlators in conformal field theories. Our discussion covers all 3-point functions of stress tensors and conserved currents in arbitrary spacetime dimensions. In dimensions three and four, we give explicit results for the renormalised correlators, the anomalous Ward identities they obey, and the conformal anomalies. For the stress tensor 3-point function in four dimensions, we identify the specific evanescent tensorial structure responsible for the type A Euler anomaly, and show this anomaly has the form of a double copy of the chiral anomaly.