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Higher-Point Integrands and Ten-Dimensional Null Limits

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Using twistor methods for determinant operators, we compute integrands for correlators of external half-BPS operators of arbitrary charges and polarizations at one and two loops and at five and six points, in the planar limit. Collecting integrands for all charges in a generating function, that generating functions displays poles at ten-dimensional null limits which effectively produce cuts in the color surface. Taking the cyclic 10d null polygon limit cuts the color sphere into two disks. The generating function in this limit is conjecturally equal to the integrand of a Coulomb-branch amplitude. Isolating this limit directly at the level of twistors, we compute the two-loop Coulomb-branch integrand for any number of particles.

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