

Classical conformal blocks via AdS/CFT correspondence

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We continue to develop the holographic interpretation of classical conformal blocks in terms of particles propagating in an asymptotically AdS_3 geometry. We study n -point block with two heavy and $n - 2$ light fields. Using the worldline approach we propose and explicitly describe the corresponding bulk configuration, which consists of $n - 3$ particles propagating in the conical defect background produced by the heavy fields. We test this general picture in the case of five points. Using the special combinatorial representation of the Virasoro conformal block we compute 5-point classical block and find the exact correspondence with the bulk worldline action. In particular, the bulk analysis relies upon the special perturbative procedure which treats the 5-point case as a deformation of the 4-pt case.