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Three-point Functions in ABJM Theory and Integrable Boundary States

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We investigate the correlators of three single-trace operators in Aharony-Bergman-Jafferis-Maldacena (ABJM) theory from the perspective of integrable boundary states. Specifically, we focus on scenarios where two operators being 1/3-BPS and the entire correlation function is considered within the twisted-translated frame. The correlator can be expressed as the overlap between a boundary state and a Bethe state. It is found that the boundary state formed by the two 1/3-BPS operators is integrable only when the number of Wick contractions between the non-BPS operator and one of the 1/3-BPS operators is 0 or 1. We compute the overlaps for the integrable cases utilizing the symmetries preserved by the correlators. This talk is based on work done with Peihe Yang.

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