Bae, Jin-Beom; Joung, Euihun; Lal, Shailesh


Summary: The vectorial holographic correspondences between higher-spin theories in AdS$_5$ and free vector models on the boundary are extended to the cases where the latter is described by free massless spin-$j$ field. The dual higher-spin theory in the bulk does not include gravity and can only be defined on rigid AdS$_5$ background with $S^4$ boundary. We discuss various properties of these rather special higher-spin theories and calculate their one-loop free energies. We show that the result is proportional to the same quantity for spin-$j$ doubleton treated as if it is a AdS$_5$ field. Finally, we consider even more special case where the boundary theory itself is given by an infinite tower of massless higher-spin fields.

MSC:

83D05 Relativistic gravitational theories other than Einstein’s, including asymmetric field theories

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AdS-CFT correspondence; higher spin gravity; higher spin symmetry

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