

# Higher spin symmetry in the IIB matrix model with the operator interpretation

*Thursday, 5 December 2019 15:00 (3 hours)*

We study the IIB matrix model in an interpretation where the matrices are differential operators defined on curved spacetimes. In this interpretation, coefficients of higher derivative operators formally appear to be massless higher spin fields. With my poster, we discuss whether the unitary symmetry of the matrices includes appropriate higher spin gauge symmetries. We find that the additional auxiliary fields need to be introduced in order to formulate the manifest symmetries, with which potentially unstable components are eliminated. As a result, we observe that the independent physical DoF are the transverse components of that symmetric field, and that the theory describes the corresponding higher spin field. We also find that the field is not the Fronsdal field, rather the generalization of curvature.

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**Session Classification:** Poster