Rotating Membranes in $AdS_4 \times M^{1,1,1}$

Jongwook Kim, Nakwoo Kim,* and Jung Hun Lee

Department of Physics and Research Institute of Basic Science,

Kyung Hee University, Seoul 130-701, Korea

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Abstract

Motivated by the recent progress on gravity duals of supersymmetric Chern-Simons matter theories, we consider classical membrane solutions in $AdS_4 \times M^{1,1,1}$. In particular, we present several types of exact solutions rotating in the Sasaki-Einstein 7-manifold whose isometry is $SU(3) \times SU(2) \times U(1)$. We analyze the limiting behavior of macroscopic membranes and discuss how one can identify the dual operators and the implications of our result on their conformal dimensions.

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* nkim@khu.ac.kr