

Boğaziçi Math Seminar

Sphere Reductions of Gravity to Two Dimensions

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Abstract:

Consistent reductions of (matter-coupled) gravity theories on spheres have been constructed and classified in an important paper by Cvetič, Lü and Pope. A strong necessary condition for the existence of such a consistent truncation can be found from the toroidal reduction of the relevant higher-dimensional theory. Its global symmetry group must accommodate an $SO(d+1)$ subgroup such that gauging of the latter describes the theory obtained from reduction on the sphere S^d . In general, this requires some symmetry enhancement that only occurs for particular matter content and couplings of the higher-dimensional theory. In this talk, I will close a gap in the classification of sphere reductions by focusing on the case when the resulting lower-dimensional theory is two-dimensional.

Date : Wednesday, May 29, 2024

Time: 11:00

Place: TB 130, Boğaziçi University