

## TWO-DIMENSIONAL GRAVITY FROM THREE AND FOUR DIMENSIONS

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### S u m m a r y

2-dimensional gravity can be found from the 4-dimensional Schwarzschild metric tensor, when motion near the horizon is examined. 2-dimensional gravity also arises in a reduction of the 3-dimensional gravitational Chern—Simons term. Novel phenomena are seen in both cases: in the former, photons become massive and decay; in the latter, homogeneous symmetry breaking solutions exist and a kink solution interpolates between them.