

Abstract Submitted
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Singularity of the CGHS model: resolving it and attempts to go beyond¹ FETHI M RAMAZANOGLU, SEMIH TUNA, Koc University — The Callan-Giddings-Harvey-Strominger (CGHS) model is a 1+1 dimensional model of gravity whose qualitative features make the investigation of Hawking radiation and information loss possible at a deeper level than a fixed background calculation. Past work resolved the behavior of the asymptotic future null infinity at the semiclassical level up to the last ray, i.e. the first occurrence of the singularity. This revealed surprising universal behavior of the black hole solutions, and indicated a resolution of the information loss problem at the semiclassical level. However, a complete understanding of black hole evaporation and information loss requires the knowledge of spacetime beyond the singularity, which might be possible thanks to the weakened nature of the CGHS singularity after leading quantum corrections. In this talk, we will first present ongoing numerical work to resolve the whole singularity of the CGHS model, not just the vicinity of the last ray. We will then discuss how to continue the numerical evolution beyond the singularity, and use these solutions to understand information loss or lack thereof.

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