LATTICE 2024

LIVERPOOL

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Observing black hole features in the collapsed phase of EDT

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Propagators of massless scalar fields have been computed on configurations of Euclidean dynamical triangulations (EDT) in the collapsed phase. They are used to calculate – up to an integration constant – the scale factor of a rotational invariant metric. This scale factor is non-zero at the origin, which we assume to be caused by the presence of the well-known singular structure in the collapsed phase. A transformation to a metric in (1+3)-dimensions reveals Euclidean black hole features at an instant in time, with a horizon separating interior and exterior parts. Assuming effective Einstein equations, the energy and pressure of a 'geometric condensate' are computed with the software OGRe. arXiv [gr-qc] 2301.07081 and 2305.16011

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