

Online Workshop on Quantum Gravity, Holography and Quantum Information

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Saturons

Friday, 19 March 2021 16:00 (1 hour)

We introduce the concept of saturons, systems that saturate a certain bound on entropy, which is imposed by S-matrix and unitarity. Such objects share certain universal properties (e.g., the area-law of entropy, near-thermal emission, inner entanglement, ...) that goes well beyond gravity. We give an example from QCD. We show that black holes and de Sitter are saturons and this determines their physical properties such as their entanglement curves. Both exhibit anomalous quantum break-time which for de Sitter is deadly. Through this mechanism, the S-matrix formulation of quantum gravity/string theory excludes de Sitter vacua.

45' talk + 15' discussion

Presenter: DVALI, Gia