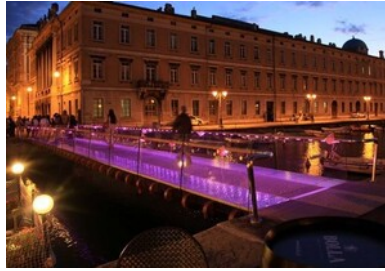


# Meeting PRIN "String Theory as a bridge between Gauge Theories and Quantum Gravity"



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## Charge (in)stability of topological stars

*Friday, 23 February 2024 12:15 (15 minutes)*

Topological stars are smooth horizonless static solutions of Einstein-Maxwell theory in 5-d and they represent possible microstate geometries for non-supersymmetric black holes. They have been proved to be (linearly) stable by studying their spectrum of chargeless quasi-normal modes; their deformability has been analysed through the Tidal Love Number both in the static and the dynamical case. In this talk, I will explore the possibility of instabilities due to the emission of charged quanta under the electromagnetic field sourced by the solution - i. e. strings winding around the compact direction - in analogy with the charge instability already highlighted for other non-BPS geometries like JMaRT. This issue will be addressed by using a variety of techniques, such as numerical methods, WKB approximation and by exploiting the recently discovered correspondence between black hole/fuzzball perturbation theory and quantum Seiberg-Witten curves.

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**Session Classification:** Gong Show 2