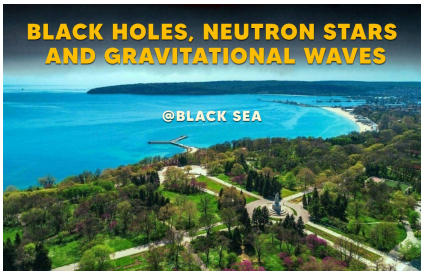

Contribution ID: **91** Type: **Oral presentation**

Excision scheme for black hole numerical simulations

Monday 16 June 2025 11:30 (30 minutes)

I will present developments and recent applications of the excision technique in the case of the Fully Constrained Formalism. I will focus on spherically symmetric spacetimes representing the collapse of a neutron star to a black hole. I will also present a more general set up of boundary conditions to be imposed at the excised surface, an arbitrary coordinate sphere inside the apparent horizon, where a new parameter can control some physical properties. I will show exponential convergence toward the stationary solution and stable long-term evolution of the newly formed black hole. Finally, I will show the application of this technique in recent general core-collapse simulations.

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