



ID de Contribution: 252

Type: Non spécifié

## Gravitational Radiation at Conformal Infinity

In an ongoing project, we are analyzing the response of a static black hole to (non-linear) perturbations by gravitational waves in the asymptotic regime. We now look to analyze what happens when the ingoing gravitational wave carries linear momentum and to compute the linear Bondi-Sachs momentum in the emitted radiation. In this talk, we will discuss some of the numerical set-up, and our approach towards computing the cross-section of the scattering process.

### References:

1. Camden, B., Frauendiener, J., Galinski, J. *et al.* A numerical framework for studying asymptotic quantities. *Gen Relativ Gravit*, **57**, 64 (2025).
2. Frauendiener, J. and Stevens, C. A new look at the Bondi-Sachs energy-momentum. *Class. Quantum Grav.* **39** 025007 (2022).

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**Classification de Session:** Astrophysics & Multi-messenger