

# Rencontre des groupes de travail "Formes d'onde" et "Tests de la relativité générale et théories alternatives"

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## BMS flux-balance laws

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Asymptotically flat spacetimes admit both supertranslations and Lorentz transformations as asymptotic symmetries known as BMS symmetries. Furthermore, they admit super-Lorentz transformations, namely super-rotations and superboosts, as outer symmetries associated with super-angular momentum and super-center-of-mass charges. In this talk, we present the flux-balance laws for all such (extended) BMS charges in terms of radiative multipole moments. Fluxes of energy, angular momentum and octupole super-angular momentum arise at 2.5PN, fluxes of quadrupole supermomentum arise at 3PN and fluxes of momentum, center-of-mass and octupole super-center-of-mass arise at 3.5PN. If time permits, we argue how each BMS flux-balance law can be thought of as a constraint on the source evolution.

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