

Bilan du premier atelier du groupe de travail «Formes d'onde» et recent progress in the computation of post-Newtonien waveforms for compact binaries

jeudi 10 octobre 2019 16:50 (20 minutes)

Post-Newtonian (PN) calculations constitute a crucial ingredient to build the waveform models for compact binaries that are used in the data analysis of the current (and future) gravitational-wave interferometers. For the resulting templates to be faithful, the overlap of the PN polarisations with their numerical counterparts must be made as high as possible. This requires to obtain the orbital phase analytically at the 4PN order at least. We shall describe the current status of this computation, focusing on the most recent progress. We shall also discuss the implementation of the tidal effects at the 2PN order, relevant in the case where the companions are neutron stars.

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Classification de Session: Groupe de travail: Formes d'onde