ID de Contribution: **8** Type: **FORMES D'ONDE**

Fast and accurate gravitational-wave modelling with principal component regression

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Inference from gravitational-wave observations relies on the availability of accurate theoretical waveform models to compare with the data. This contribution considers the rapid generation of surrogate time-domain waveforms consistent with the gravitational-wave signature of the merger of spin-aligned binary black holes. Building on previous works, a machine-learning model is proposed that allows for highly-accurate waveform regression from a set of examples. An improvement of about an order of magnitude in accuracy with respect to the state of the art is demonstrated, along with a significant speed up in computing time with respect to the reference generation software tools.

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