ID de Contribution: **4**   Type: **MÉTHODES D'ANALYSE DES DONNÉES**

GPE: GPU-accelerated parameter estimation for gravitational waves

mardi 30 mars 2021 14:00 (15 minutes)

We present GPE, a GPU-accelerated parameter estimation package for gravitational waves from compact binary coalescence sources. This stand-alone program is adapted from the nested sampling flavor of LALInference. Two main parallelization methods are implemented: (1) the frequency-domain waveform and likelihood calculations, (2) and the prior sampling portion in the nested sampling algorithm. We show that GPE can produce consistent results compared to LALInference, while demonstrating a 200-400 times speedup on one GPU compared to LALInference on one CPU. The high acceleration of GPE can facilitate the data-analysis of detected events, simulations for detector observing scenarios, and production of sky localization regions for EM follow-up.

Auteur principal: Mlle HUANG, Yun-Jing (Academia Sinica, Taiwan)

Co-auteur: Dr HAINO, Sadakazu (Academia Sinica, Taiwan)

Orateur: Mlle HUANG, Yun-Jing (Academia Sinica, Taiwan)

Classification de Session: Contributed talks: Data analysis methods