

Data Analysis Working Group Research Unit Proposal Form

- **Unit leader** (Full name, ID number in the KAGRA roster, current position, email address) :
Yi Yang, Professor, yiyang@mail.nctu.edu.tw
- **Affiliation of unit leader:**
National Chiao Tung University, Taiwan
- **Members** (Full Name, ID number in the KAGRA roster, current position, email address, roles)
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- **Research plans:**

1. [Working group]: CBC

[Project]: Test GR form GW produced by CBC

[Description]: Test various possible deviations from the GR prediction by analyzing the GW from CBC.

[Members]: Yi Yang, Chia-Jui Chou, Yu-Hsuan Lo

2. [Working group]: CBC

[Project]: Flow-based generative models for MCMC acceleration in Parameter

Estimation [Description]: Using the deep learning model, normalizing flow model, to propose the configurations in parameter space for updates in steps of MCMC to accelerate the process.

[Members]: Yi Yang, En-Jui Chang, Sheng-Hong Lai, Chia-Jui Chou

3. [Working group]: Stochastic Background

[Project]: Test of Various Inflation Models by Stochastic Background GW

[Description]: To test different inflationary scenarios that can produce the stochastic background GW that may be detected by the presently proposed detectors.

[Members]: Yi Yang, Hans Lao, Meng-Wei Li, Yi-Hsuan Huang