

# **Discussion about the next step**

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# Instruments 1

- **Fiber ring cavity (Tai Hyun Yoon and Seiji Kawamura)**
  - Yoon will develop the frequency stabilization system using the FRC at ICRR for two months (6/18-8/18) as an ICRR visiting professor.
  - This system will be used for the iKAGRA input optics if the system works.
  - Yoon, Kawamura, Nakano, Ohshima, and maybe one of Yoon's students will work on this.
- **Laser (Tai Hyun Yoon and Mio Norikatsu)**
  - Is this possible?

# Instruments 2

- **Tilt sensor (Kyuman Cho and Seiji Kawamura)**
  - Cho will develop the tilt sensor at ICRR for 7 weeks (1/6-2/25) as an ICRR visiting professor.
  - Cho and Kawamura should discuss a possible application of the tilt sensor for KAGRA and the experiment plan during Cho's stay.
  - Cho, Kawamura, and one of Cho's students will work on this.
- **Characterizing quantum and thermal aspects of the KAGRA detectors (Sangpyo Kim and Kentaro Somiya)**
  - HM Lee will ask Kim and Kawamura will ask Somiya about this and encourage them to discuss this with each other.

# Detector Characterization

- So far we have been collaborating on how to apply the ANN-based multi-channel analysis to KAGRA detector characterization. The ANN pipeline is now included in iDQ, LSC soG package. Next several months, we will integrate iDQ into HasKAL, KAGRA DetChar library. We'd like to apply it to GIF sensor data.
- At the same time, KGWG will lead development of a novel correlation method based on the mutual information (see J.Oh's talk). This should be a new multi-channel diagnostics tool for KAGRA.
- Developing and Studying a new Trigger-Generation Method based on Hilbert-Huang Transform - Comparing to Klein-Welle and Omicron in LSC.

# Data Analysis 1

- **Parameter estimation for KAGRA CBC:**
  - Review of the MCMC method in general, and LALInference and LALSimulation were done on June 21th.
  - Targets of this project is to implement the PE library to KAGALI, and to demonstrate the parameter estimation by using iKAGRA data
  - Detailed schedule of this project will be discussed later

# Data Analysis 2

- **Paper projects**
  - The results of CBC PE by using iKAGRA data will be one part of the iKAGRA data analysis papers.
- **Repository**
  - Tagoshi will open account for KGWG members at DAS git repository.
- **Telecon**
  - First telecon is July 11th, 17:00-18:00. We will have a telecon about once in two weeks.

# Next few Workshops

- **7th workshop (2014)**
  - Toyama Univ. in Japan
  - December 19-20
  - Tour to the site
- **8th workshop (2015)**
  - Gwangju In Korea
  - June 27 (one day on Saturday right after Amaldi, HMLee will check the availability of accommodation and venue)
- **Then, Japan (in winter) and Korea (in summer) alternately**