Black Hole and Gravitational Waves

블랙홀과 중력파

— from modified theories of gravity to data analyses —

— 수정중력이론부터 데이터분석까지 —

APCTP Program organizer meeting Feburary 10th 2023

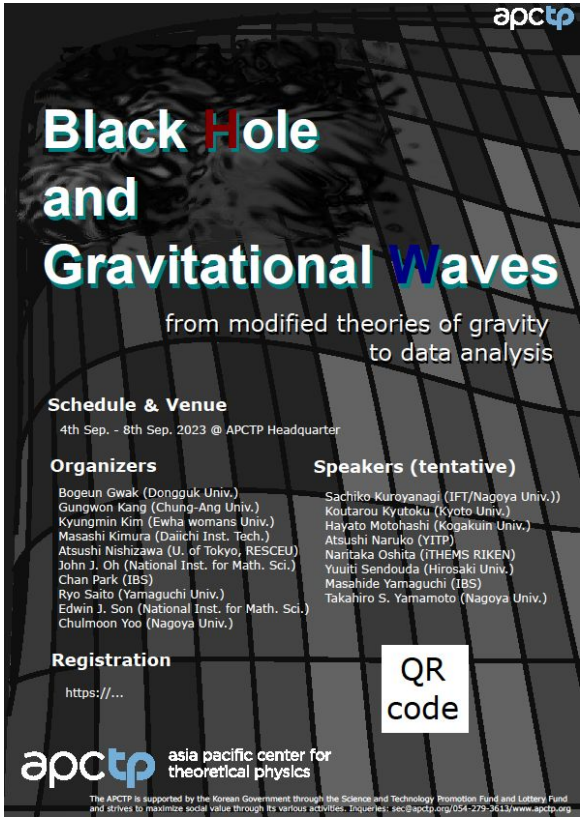
Background

We are in the era of observational black hole physics. After the first detection of gravitational waves from a **binary black hole** coalescence in 2015, many gravitational wave events have been observed. Recently, investigations into the nearby black holes, such as **observations of orbiting stars** and **black hole shadows**, are attracting much attention and rapidly developing.

One of the most exciting subjects is the tests of gravitational theory around a black hole. While general relativity is currently consistent with all observational results, it is important to develop **theoretical arguments in cooperation with realistic data analyses for the tests of gravity** through future accurate observation.

Program category, Schedule & Venue

- Program category
  category 2, Focus Research Program
- Proposed dates for the workshop
  4th Sep. (Mon) - 8th Sep. (Fri) 2023
- Venue
  APCTP Headquarter



Aims

- Towards the tests of gravitational theory, discussing gravitational phenomena around a black hole and gravitational waves by gathering experts in black hole physics, modified theories of gravity, theoretical study of gravitational waves, and data analyses of gravitational waves.
- Creating new research collaboration through deep discussion.

Topics

- Effects of modified gravity on future observations
- Tests of gravitational theory with gravitational-wave astronomy
- Gravitational physics around a black hole

Organizers

- Bogeun Gwak (Dongguk Univ.)
- Gungwon Kang (Chung-Ang Univ.)
- *Kyungmin Kim (Ewha womans Univ.)
- Masashi Kimura (Daiichi Inst. Tech.)
- Atsushi Nishizawa (U. of Tokyo, RESCEU)
- John J. Oh (National Inst. for Math. Sci.)
- Chan Park (IBS)
- Ryo Saito (Yamaguchi Univ.)
- Edwin J. Son (National Inst. for Math. Sci.)
- *Chulmoon Yoo (Nagoya Univ.)

*main contacts

Speakers(tentative)

- Sachiko Kuroyanagi (IFT/Nagoya Univ.))
- Koutarou Kyutoku (Kyoto Univ.)
- Hayato Motohashi (Kogakuin Univ.)
- Atsushi Naruko (YITP)
- Naritaka Oshita (iTHEMS RIKEN)
- Yuuiti Sendouda (Hirosaki Univ.)
- Masahide Yamaguchi (IBS)
- Takahiro S. Yamamoto (Nagoya Univ.)
- + some of organizers