

# Extreme Universe

## The 5th COLLOQUIUM

April 25<sup>th</sup> (Mon.) ONLINE

TALK 10:00 am - 11:00 am (JST)

April 25<sup>th</sup> (Wed.) 1:00 am - 2:00 am (UTC)

April 24<sup>th</sup> (Sun.) 6:00 pm - 7:00 pm (PDT)

ONLINE COFFEE TIME

11:00 am - 12:00 am (JST)

Registration required (click [HERE](#))

Extreme Universe, JAPAN



Speaker

Prof. Jiro Soda

Kobe University

Title

Graviton search with quantum information and quantum sensing

### Abstract

To construct a consistent quantum theory of gravity is the ultimate goal of physics. Conventionally, it has been studied in the context of extremely high energy physics. Here, our approach is rather modest and intimately related to experiments. We consider macroscopic quantum phenomena and its relation to gravity. In particular, we will discuss quantum noise of gravitons in a detector. Then, we will explain how the decoherence due to noise of gravitons can be used for the graviton search. Finally, we argue that high frequency gravitational wave detection is also related to the graviton search.

Collaboration

2022