

Sapphire suspension in KAGRA –Current design and perspective-

Thursday, 26 May 2022 13:30 (20 minutes)

Cooling mirrors and their suspensions are promising way to reduce thermal noise. To maximize the benefits of cooling, utilizing low mechanical loss material at cryogenic temperature is essential; therefore, KAGRA mirrors and their suspension fibers are made of sapphire. To achieve good cryogenic suspension, there are several technical difficulties because the suspension needs not only low mechanical loss for thermal noise reduction but also high thermal conductivity for keeping mirror temperature low. In this talk, we present a review of the current KAGRA sapphire suspension and its perspective.

Primary author: Dr USHIBA, Takafumi (ICRR)

Presenter: Dr USHIBA, Takafumi (ICRR)

Session Classification: Cryogenics for LF