



Contribution ID: 67

Type: **poster**

## Optical levitation of a mirror

*Tuesday, 24 May 2016 18:00 (0 minutes)*

An optomechanical device reaching the standard quantum limit (SQL) of a force measurement plays a prominent role for studying quantum mechanics. To prepare such a device, a mechanical oscillator well isolated from the environment is essential for the reduction of thermal disturbances. Here we propose an optical levitation of a mirror with two vertical Fabry-Perot cavities linearly aligned. We show the stability of the system and demonstrate the feasibility of reaching the SQL with this system.

**Primary author:** Dr MICHIMURA, Yuta (Department of Physics, University of Tokyo)

**Co-authors:** Prof. ANDO, Masaki (Department of Physics, University of Tokyo); Dr MATSUMOTO, Nobuyuki (Frontier Research Institute for Interdisciplinary Sciences, Tohoku University); Dr USHIBA, Takafumi (Department of Physics, University of Tokyo); Mr KUWAHARA, Yuya (Department of Physics, University of Tokyo)

**Presenter:** Dr MICHIMURA, Yuta (Department of Physics, University of Tokyo)

**Session Classification:** Poster Session