



Contribution ID: 76

Type: poster

Cryogenic mechanical loss of IBS silica

Tuesday, May 24, 2016 6:00 PM (0 minutes)

Coating thermal noise is the limiting factor for detector strain sensitivity in the most sensitive frequency band. Future gravitational wave detectors are proposed to operate at cryogenic temperatures, where the mechanical loss of the low-index, amorphous silica coating layers is not well characterized and stands to be the dominant source of noise in the multi-layer mirror coating stack if amorphous silicon is found to be a viable replacement for the high-index layers (currently 25% Ti:Ta₂O₅). The low temperature mechanical loss of ion-beam sputtered silica is presented for a number of post-deposition heat treatments.

Primary author: Mr ROBIE, Raymond (University of Glasgow)

Co-authors: Dr MARTIN, Iain (University of Glasgow); Prof. HOUGH, James (University of Glasgow); Dr MURRAY, Peter (SUPA University of Glasgow); Ms ROWAN, Sheila (University of Glasgow)

Presenter: Mr ROBIE, Raymond (University of Glasgow)

Session Classification: Poster Session