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Poster Session

Submission of Abstract

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Title of the Poster: Lock Acquisition & Commissioning of the Advanced Virgo detector

Abstract Text: Gravitational waves are ripples of the space-time metric caused by astrophysical events, as predicted by Einstein's Theory of General Relativity. The recent publication, by the LIGO-Virgo Collaboration, of the first detection of such waves shed new light upon this method of investigation.

The Advanced Virgo experiment will join in 2017 the international network of interferometric detectors, after the end of the commissioning. A crucial aspect of the commissioning is the development of a *lock acquisition* strategy, which is the procedure that brings the optically resonant cavities of the interferometer in their working point, using advanced control schemes. The main features of such procedure for this 2nd generation detector will be presented, with a focus on the ongoing commissioning.

Summary (with tags): Overview of the *lock acquisition* procedure for the *Advanced Virgo gravitational waves* detector, which is being developed and commissioned. The lock acquisition is the procedure by which the *optical resonant cavities* are brought and then kept in their working point with the use of longitudinal and angular *control systems*.