

Abstract for Classical and Quantum Gravity

Title: LISA Optics Model

Author:

Eugene Waluschka

NASA/GSFC/551.0

Greenbelt, MD 20771

Abstract

The LISA experiment has six telescopes, in three spacecraft, in orbit about the sun. There is a continuous two-way laser link between all of the spacecraft. The ability to make sub picometer level performance predictions about the interferometry for such a large optical system which has major subassemblies separated by 5 million kilometer distances which are constantly moving with respect to each other requires a slight extension of existing optical analysis techniques. To see this a description of the approach used to model all of the optics, in the spacecraft in orbit, is presented and the ability of this model to analyze requirements is discussed.