Contribution ID: **136** Type: **not specified**

Highlights on LISA-Pathfinder and LISA

In 2016, the LISA Pathfinder satellite demonstrated an unprecedented level of residual acceleration between two freely falling test masses in space, at the level required for a space based gravitational wave detector. This achievement has been the basis for the selection in 2017 of LISA as the 3rd Large class mission in the ESA Cosmic Vision 2015-2025 program. The promised scientific outcomes of LISA are outstanding, having the potentiality to unveil the most powerful sources of gravitational waves in the Universe in the mHz frequency band, a region of frequencies not accessible from on-ground observatories.
In this talk, I will review the results of the LISA Pathfinder mission, which paved the way to the selection of LISA by ESA and represent a fundamental heritage upon which LISA will be built. Moreover, I will highlight the status of the LISA project, entering now the Industrial Phase A, and its potential for the future of gravitational wave astrophysics.