

## Parameter estimation in LISA Pathfinder experiments

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The LISA Pathfinder (LPF) mission will test key technologies for future space-borne Gravitational Wave missions like eLISA. Its main goal is to estimate the acceleration noise models of the overall LISA Technology Package (LTP) experiment on-board LPF. For this purpose, a series of system identification experiments have been proposed and each one is designed to provide with essential information about the system. Here, we present a study on those experiments and a set of data analysis methods to manipulate the data from the satellite. In particular, we focus on the sensitive axis of the experiment and we report on the predicted accuracy of the parameters that describe the system. We analyze each experiment separately using synthetic data produced by the LTPDA Matlab toolbox simulator.