The generic mirror chamber for the European XFEL

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Design overview of the generic mirror unit

-> 10 derivative units are build
The generic mirror chamber for the European XFEL: Tino Noll et al.
Motor driven struts

Non motorized strut

The generic mirror chamber for the European XFEL: Tino Noll et al.
Topology of the Cartesian parallel kinematic
Simulation of the kinematic behaviour
- rotation around the Z-axis
Simulation of the kinematic behaviour
-> rotation around the Y-axis
Simulation of the kinematic behaviour  
-> rotation around the X-axis
Simulation of the kinematic behaviour
-> translation along the Z-axis
Simulation of the kinematic behaviour
-> translation along the Y-axis
Simulation of the kinematic behaviour
-> translation along the X-axis
Strut of the Cartesian parallel kinematic with embedded piezo stack drive
Simulation results of the vacuum chamber under air pressure

-> displacement of the wall
Modal analysis of the vacuum chamber with granite base
-> 1\textsuperscript{st} eigenfrequency at 98 Hz
Modal analysis of the vacuum chamber with granite base

-> 2nd eigenfrequency at 114 Hz
The prototype in the lab for characterization

installed in the beam line