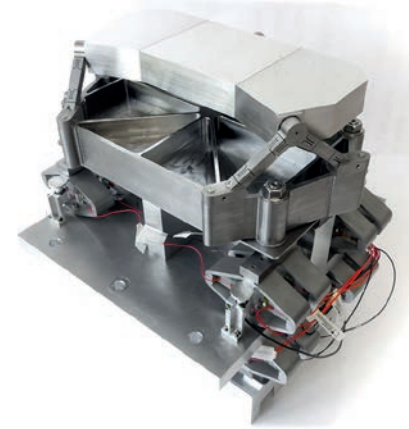


DESCRIPTION

In the context of CNES future observation satellite and DGA funding, and in collaboration with CNES and SODERN, CTEC designed a large space mechanism that allows to tilt a 2 kg payload by 0.5 mrad in 2 ms with a tracking error of less than 1 %, while the resonance frequency is in the 500 Hz range. The vibrations created by the payload are compensated by moving another mass in the opposite direction. It uses 8 APA120ML with strain gauges.

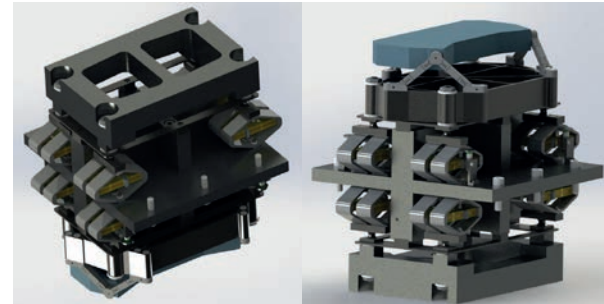
This project allowed CTEC to create software to compensate the vibrations with reduced additional masses.



View of MEFISTO mechanism

APPLICATION

The MEFISTO mechanism is dedicated to fillet compensation for space telescopes.



CAD of MEFISTO mechanism

PARAMETER	UNIT	DTT120ML-PTW FOR MEFISTO
Angular stroke Rx & Ry +/-	mrad	0.75
Dimensions	mm	279×250×293
Total mass	g	12 700
Mirror mass	g	730
Mirror dimensions	mm	220×96×23
Loaded resonance frequency	Hz	840
Speed		0.5 mrad in 2 ms
Maximum error	μm	2
Capacitance (per axis)	μF	40
		Capacitive sensors