

**AFFORDABLE. RELIABLE. PROVEN.**

# NanoSat Air Bearing

A Modular and Low Cost Platform to Test Cubesats.

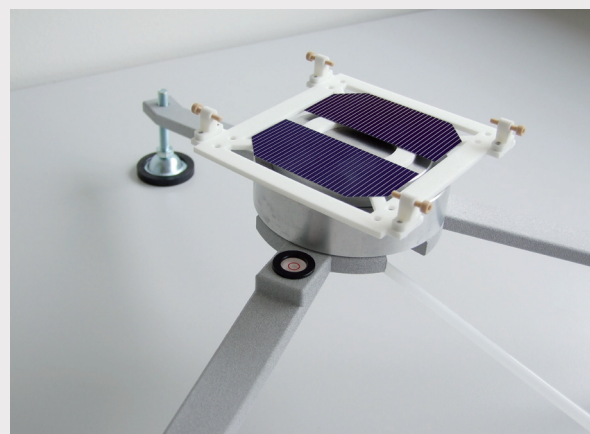
## Motivation

Complex missions demand complex ADCS scenarios. An air bearing is the tool to test your ADCS on ground. However existing air bearings in the market are too big to be compatible for Cubesats. Therefore BST has developed the NanoSat Air Bearing.

## Specification

The NanoSat Air Bearing developed by Berlin Space Technologies is a test platform dedicated to test the ADCS of nano satellites. It was designed to have a very low moment of inertia to allow measurements with errors of less than 10% even for 1U Cubesats. The NanoSat Air Bearing is suitable for 1-3U Cubesats. Its modular design allows integration of Helmholtz coils and a sun simulator.

The first NanoSat Air Bearing has been built and successfully used for the implementation of the attitude control system (iADCS-100) of the Aalto-1 satellite.



NanoSat Air Bearing

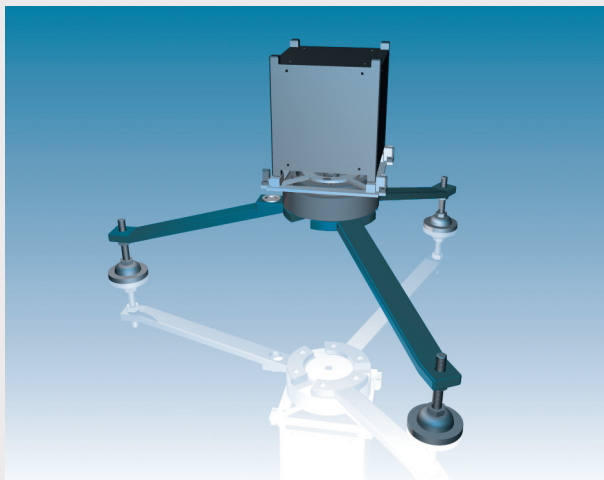
## NanoSat Air Bearing is

- **a precise tool to develop and test your nano satellite attitude control**
- **a low cost platform with very low residual moment of inertia**
- **suitable for 1-3U Cubesats and adaptable to nano satellites with up to 25 kg mass**
- **modular and can be equipped with Helmholtz coils and sun simulator**

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# NanoSat Air Bearing

A Modular and Low Cost Platform to Test Cubesats.



CHARACTERISTICS:	NANOSAT AIR BEARING	COMMENTS
<b>Type of Air Bearing</b>	1-Axis DoF	low cost single axis air bearing, self stabilizing all axes can be tested by turning the satellite
<b>Suitable Satellites</b>	1-3U Cubesats	optional custom table allows larger Nanosats
<b>Adjustable Centre of Gravity</b>	+/- 10mm	in compliance with Cubesat standard
<b>Platform Moment of Inertia</b>	<7.5%	ratio of platform Mol to 1U Cubesats Mol
<b>Optional Equipment</b>	Helmholtz Coils	to simulate magnetic field in orbit
	Sun Simulator	to test sun sensors
	Custom Table	to allow larger nano satellite with up to 25kg mass