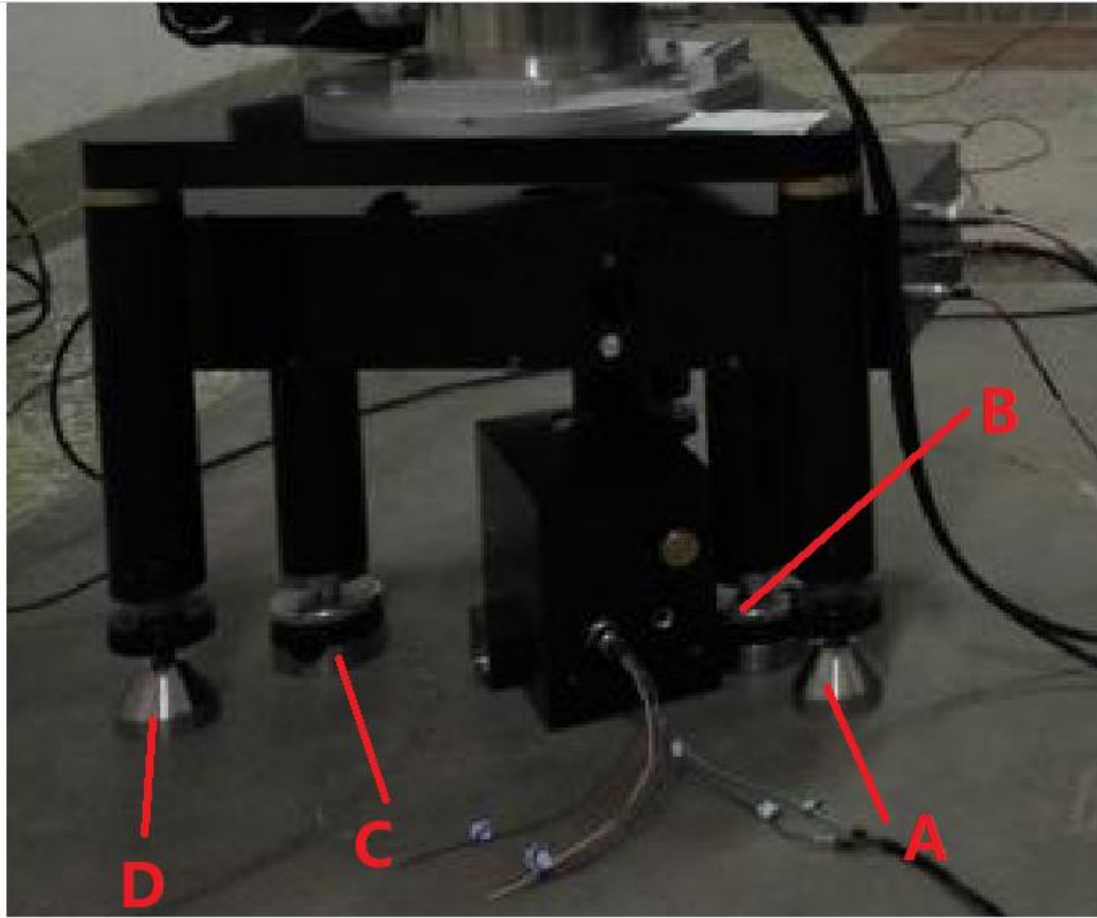


1 In this paper, the author introduces two transfer functions of the RCCISD. The first one is transfer function using the shake table test data (see section 4.2). The second one is transfer function using sinusoidal calibration data(see section 4.3). There are difference between these two transfer functions, especially from bandwidth 0.1Hz to 10Hz. Why use these two transfer functions in this paper? Does these two transfer functions have an impact on subsequent gravity acceleration measurements and experimental data analysis?

2 In section 4.4, during the experimental, where is the RCCISD? Be placed inside the vacuum chamber of the gravimeter? Or just be placed on the ground outside the vacuum chamber of the gravimeter? When the RCCISD was placed on ground outside the vacuum chamber of the gravimeter, Is the vibration acceleration data measured at different positions consistent? See following figure, near the A-pillar or B-pillar in the figure, the amplitude of vibration acceleration may be larger? In the figure, the vibration amplitude at the center position of the four pillar A, B, C, and D is smaller. But the small changes in the vibration acceleration signal measured by RCCISD may have a significant impact on the analysis of the gravity acceleration results of the gravimeter.



3 There are some unclear sentences in the article that need to be carefully revised.

seismometer does not coincide with the reference corner cube in space, resulting in spatial dislocation,
15 which cannot accurately reflect the vibration state of the reference corner cube. So, it is necessary to
hang the reference corner cube on the elastic element to directly measure its vibration acceleration
measurement. In this paper, an open-loop reference corner cube inertial suspension device(RCCISD)
hanging the reference corner cube was developed based on the principle of seismometer, which is used

the reference corner cube directly placed on the ground, RCCISD can reduce the vibration interference
to a certain extent, not only can it measure the reference corner cube vibration more accurately than the
seismograph synchronous observation method for the vibration compensation of gravity measurement,
25 but also the volume is about 1 / 3 of the Super-Spring volume, which can greatly reduce the height of
the gravimeter.

new open-loop reference corner cube inertial suspension device. The motion of the pendulum is measured by an electromagnetic transducer. A coil is installed on the pendulum and embedded in the gap magnetic field of the magnetic steel. The induced electromotive force is generated by the movement of the coil in the magnetic field, and the output of the voltage signal is used to reflect the

$$e_v = 2 \pi rNB \frac{dx}{dt} = U \frac{dx}{dt} \quad (2)$$

Where U is the voltage sensitivity, the larger U is, the higher the sensitivity of the device is. The transfer function of the output voltage to the ground vibration acceleration is

$$H(s) = \frac{Us}{s} \quad (3)$$