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Gravity Probe B Relativity Mission

Procedure for Verification of dc Coupling of SM Gyroscopes

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Procedure for Verification of dc Coupling of SM Gyroscopes

This procedure is to be performed only by persons listed as certified operators of the gyroscope acceptance facilities.

Equipment: Gyroscope Commissioning Probe
Quantum Design dc SQUID Controller
BTI dc Current Source, Model CCS

Preparation: Gyroscope not levitated.

Procedure:

- I. Connect BTI current source to the small calibration loop. Turn on the device and set its output to zero.
- II. Set the SQUID which reads the parting plane loop to range 500 with gain of 1. Reset to zero the SQUID output. Record the SQUID output in **Lt-Op #5**.
- III. Record the following values in **Lt-Op #5**; date, time, SQUID settings (channel #, range, gain, filtering).
- IV. Apply 10 milliamps to the small calibration loop. Record the SQUID output in **Lt-Op #5**.
- V. Record the SQUID output (3) times at 5 minute intervals.
- VI. Reduce the current to zero and hold here for 2 minutes. Record the SQUID output in **Lt-Op #5**. Reverse the polarity of the current.
- VII. Apply 10 mamps to the small calibration loop. Record the SQUID output in **Lt-Op #5**.
- VIII. Record the SQUID output (3) times at 5 minute intervals.
- IX. Reduce the current to zero, record the SQUID output in **Lt-Op #5** and disconnect the current supply from the small calibration loop.
- X. Record result in **section III. of F.G.T. #3**

* In the case where flux jumps occur you may repeat the measurement. If this should be necessary record new observations in the next section of **Lt-Op #5**.