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BOSEMs for Transmon suspension tests

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v2 updated with two further BOSEMS from B Shapiro, replacing those indicated from J Romie.

Introduction

The purpose of this document is to capture the serial numbers of the six BOSEMs which the Suspensions group is lending to the AOS group for testing of their Transmon suspension in its “dirty” state. These BOSEMS are all prototype BOSEMS and not for use in final production suspensions. However they are suitable for tests of damping and control. Production BOSEMS will be supplied when needed for assembly in production Transmon suspensions.

1 Details of BOSEMs

Six BOSEMs are being supplied as follows, with labelling as shown.

1.1 From Brett Shapiro at MIT

Noise Prototype OSEM Assembly – D060218-B s/n 053

Noise Prototype OSEM Assembly – D060218-B s/n 054

Noise Prototype OSEM Assembly – D060218-B s/n 055

Noise Prototype OSEM Assembly – D060218-A s/n 031

Noise Prototype OSEM Assembly – D060218-A-K s/n 029

Noise Prototype OSEM Assembly – D060218- A-K s/n 030

1.2 Note on differences between these BOSEMS and production BOSEMS

2.3.1 Versions A and B (as above) are noise prototype units. All production BOSEMS are version C.

In general the B prototypes are identical to final production BOSEMS except for the type of LED used. The LEDs in the prototypes have been determined to be noisier than requirements. However the noise performance of the prototype BOSEMS will NOT affect the types of tests which will be carried out on the Transmon suspension.

The version A prototypes included above are an earlier design where the clearance between OSEM body and magnet/flag assembly is a little tight, making alignment more difficult. Other than that, the design is essentially the same as version B.