CM1 Coldmass Transport Analysis

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Introduction

The CM1 coldmass was installed onto the transport frame on October 12th. Four helical cable isolators (or shock absorbers) were used to isolate the cavity from extreme acceleration. Also, the coldmass was instrumented with 15 geophones, mounted in x, y and z on cavities 2 through 8 and a seismometer on the base frame. On Monday, October 15th, the coldmass was transported from MP-9 to ICB using an air-ride truck shown in Figure 1.

Figure 1 Loading CM1 Coldmass with isolations system onto air-ride truck at MP-9.

Acceleration Results

The complete route from MP-9 to ICB was 2.3 miles, traveled in roughly 33 minutes. We collected 2,185 seconds (36 minutes, 41 seconds) of data, at 5,000 points per second. The maximum coldmass accelerations measured were 0.25 g (vertical), 0.13 g (transverse) and 0.05 g (longitudinal). Figure 2 shows the normalized maximum acceleration of the cavities in x (transverse), y (vertical) and z (longitudinal) during the transport.

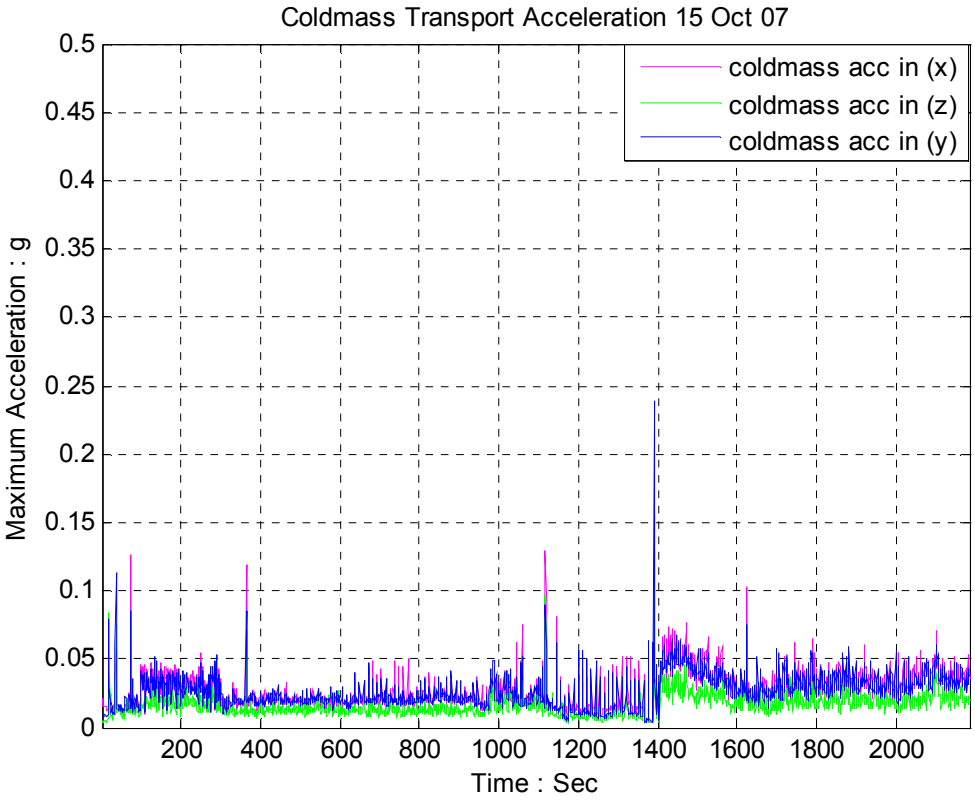

Figure 2 Plot of maximum acceleration during transport.