

Hg System Testing Status

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MERIT VRVS Meeting

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Ti Nozzle Installed

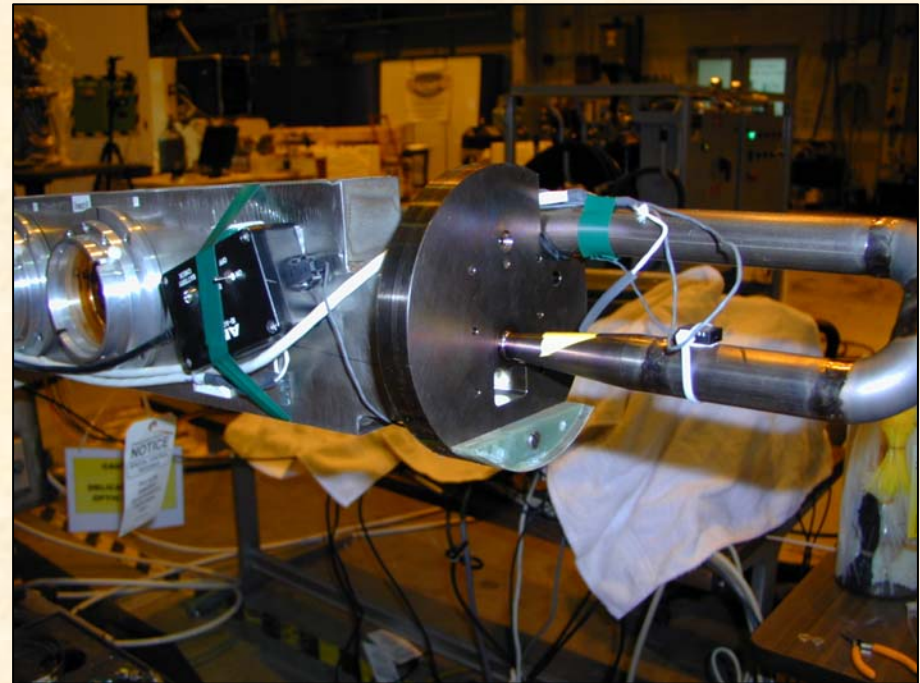
- **Length issue corrected**
 - New weld at $Z=0$
 - Introduced slight angle change in pipe
- **Modified assembly x-rayed and pressure tested**
- **Nozzle length unchanged at this point**



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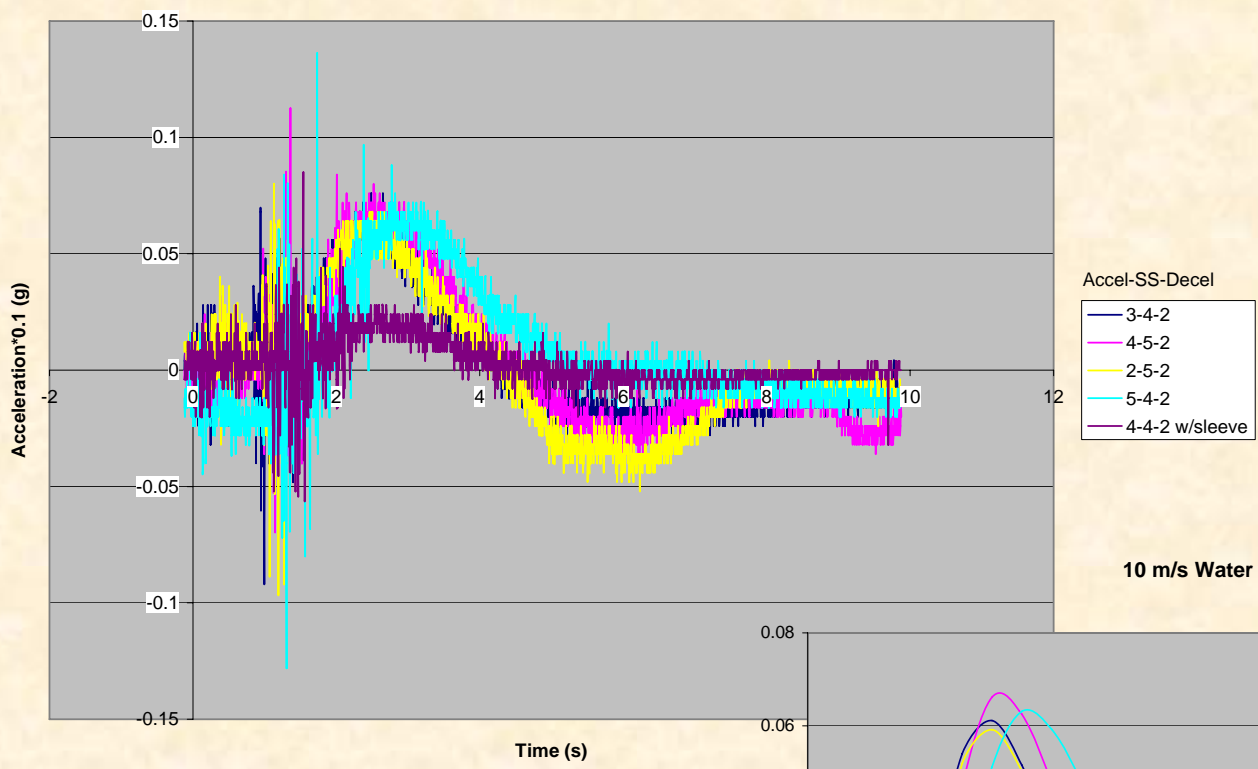
Vibration Testing Initiated

- Accelerometer placed upstream of nozzle
- Oriented for vertical measurements
- Observing effects of different velocity profiles

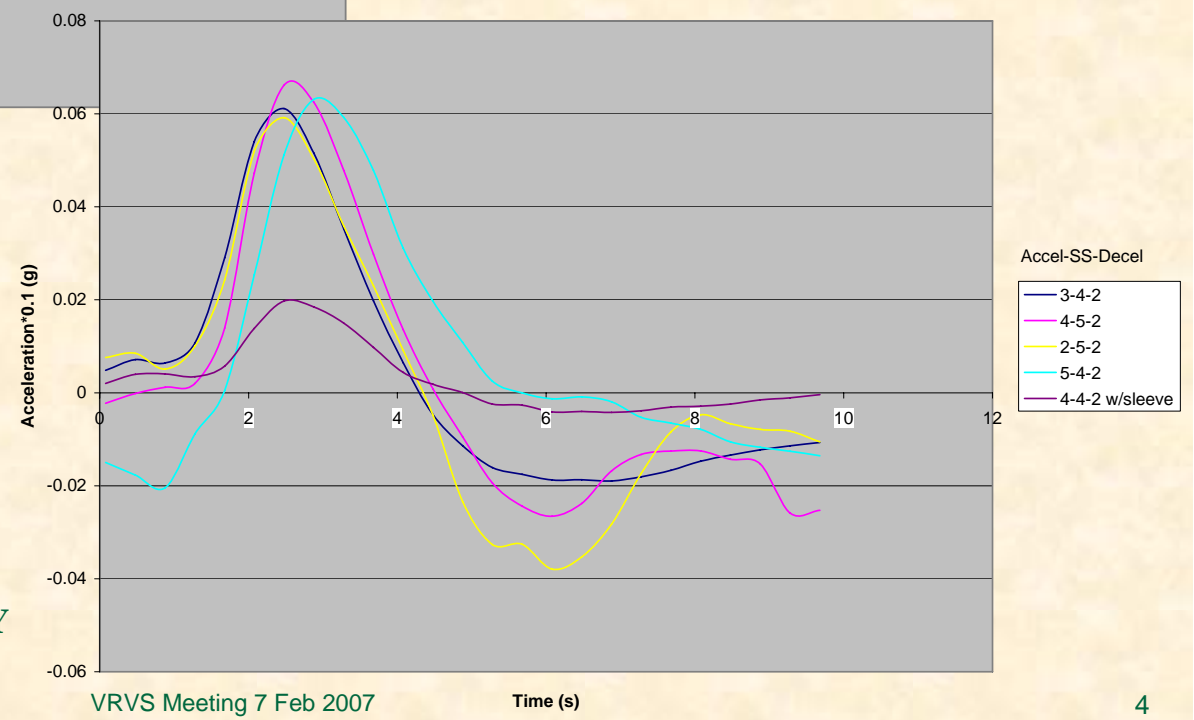




10 m/s Water Data

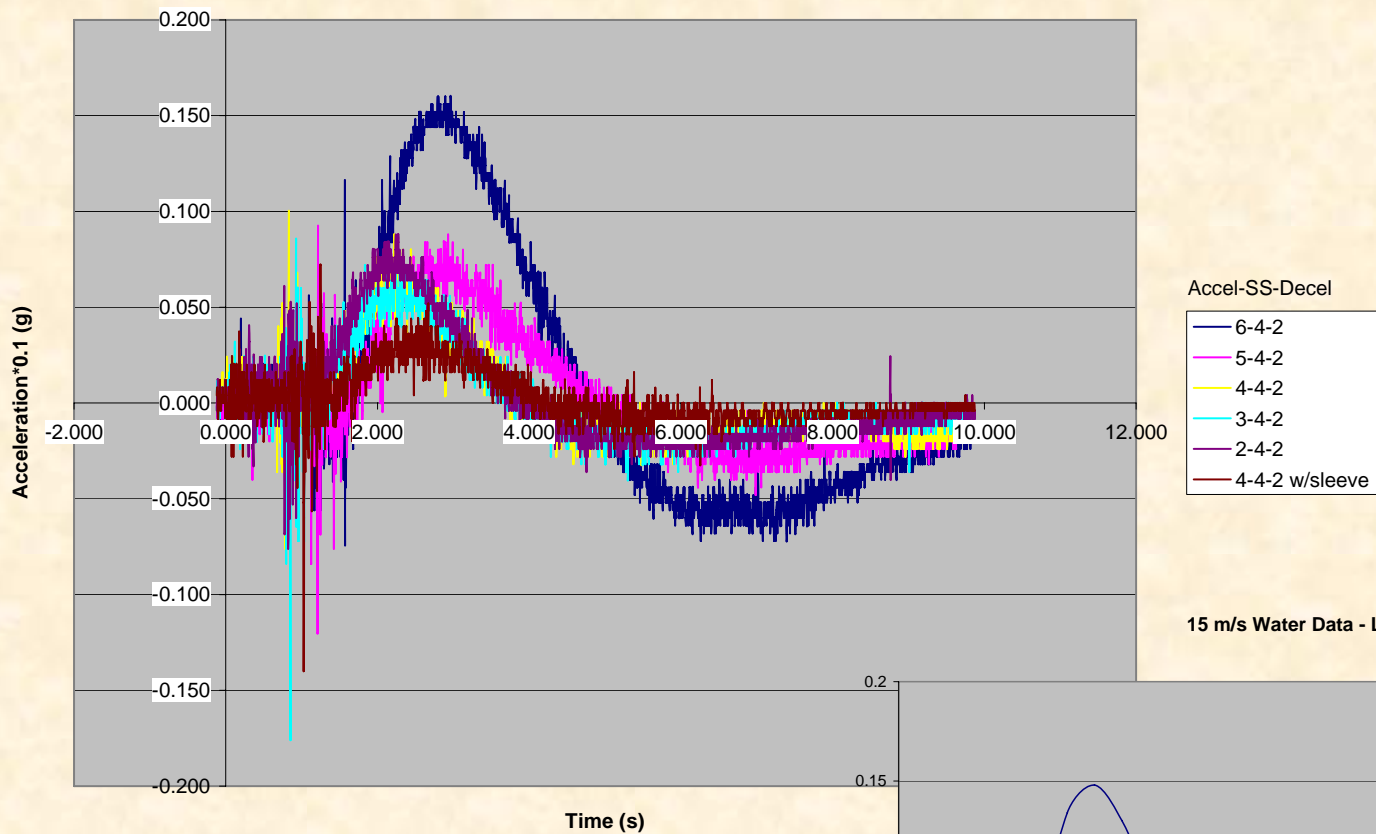


10 m/s Water Data - Low Frequency

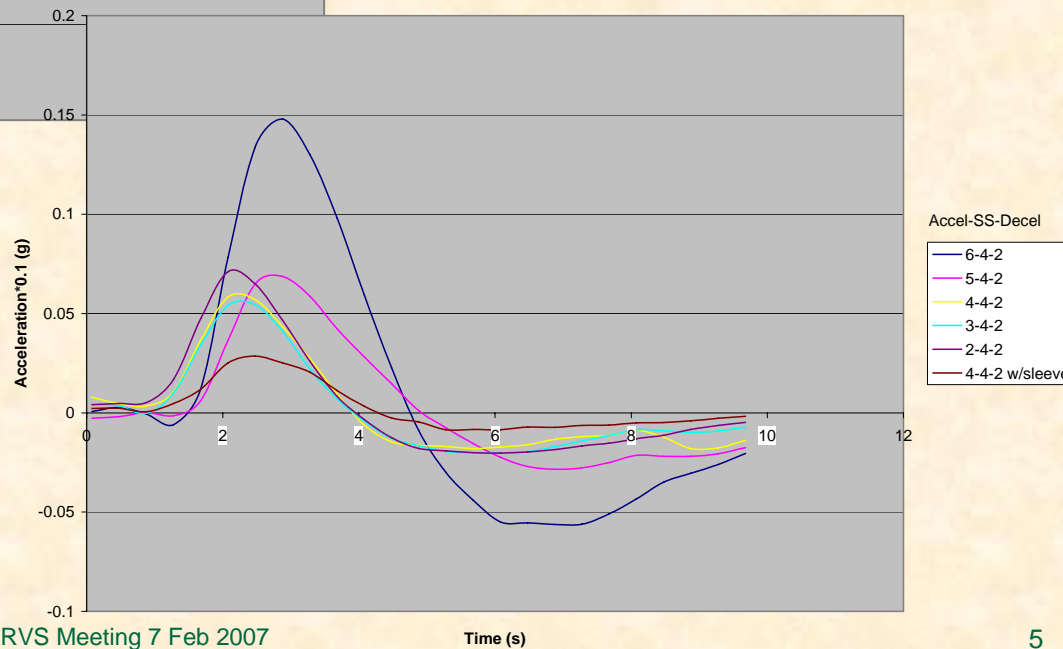


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15 m/s Water Data



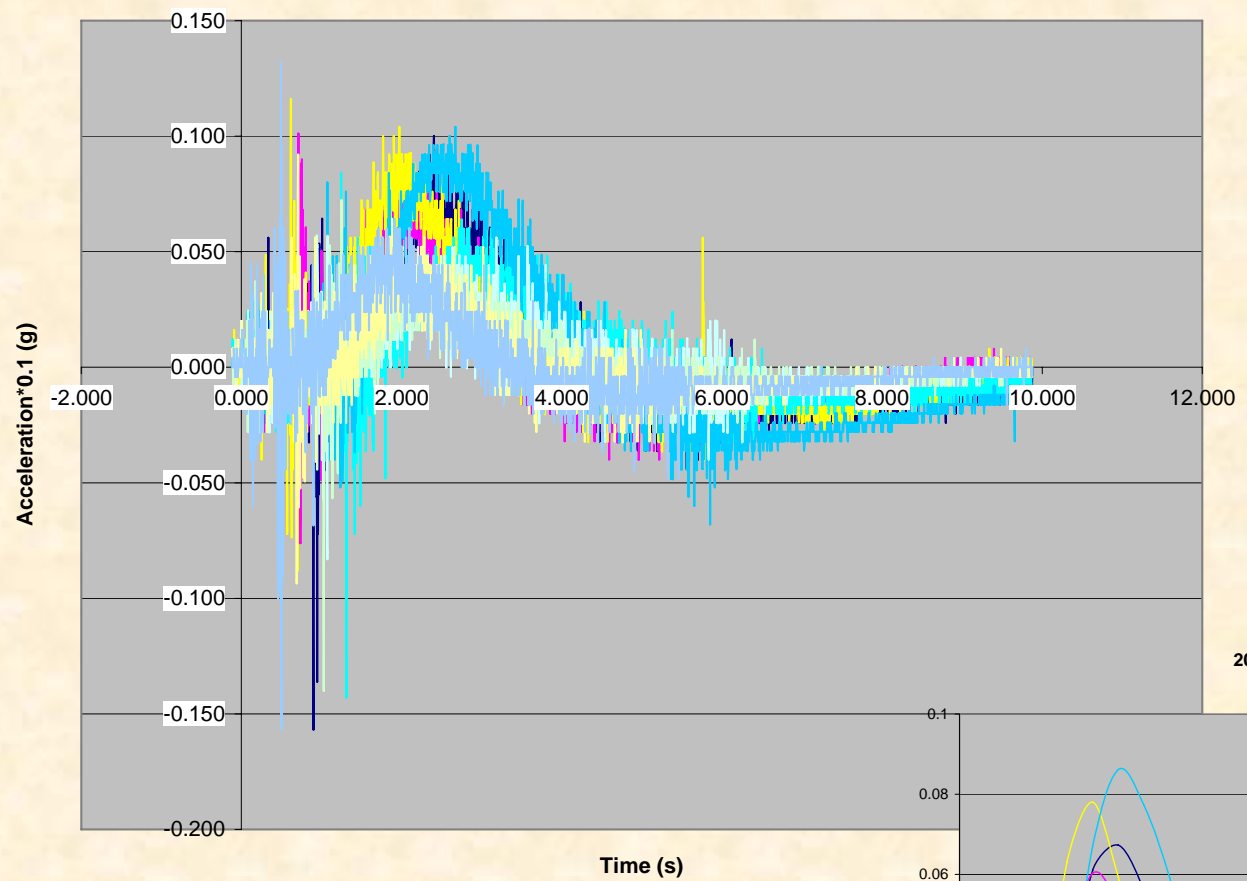
15 m/s Water Data - Low Frequency



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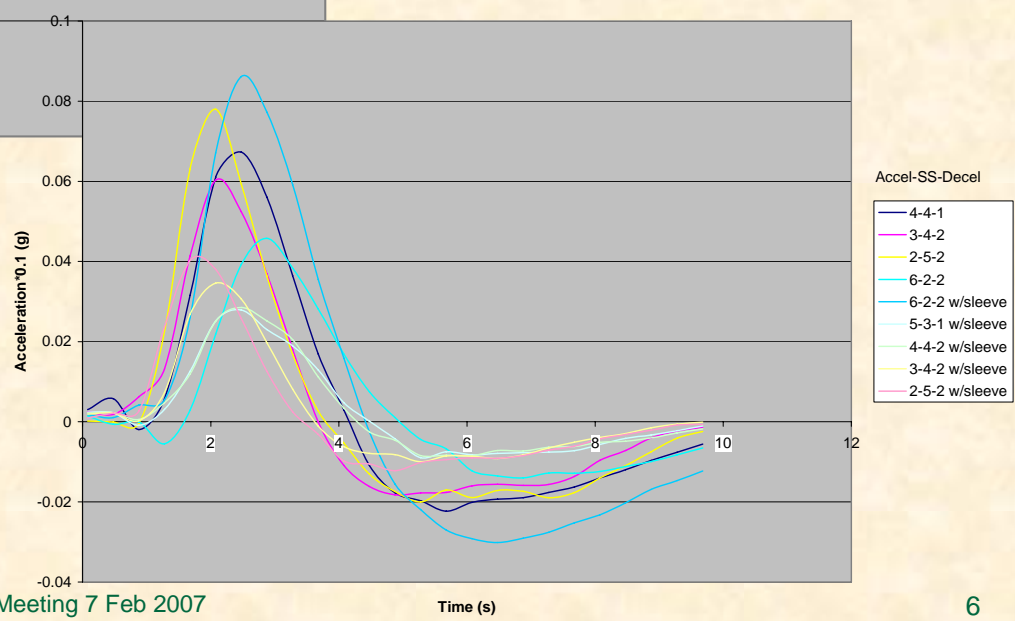
20 m/s Water Data



Accel-SS-Decel

- 4-4-1
- 3-4-2
- 2-5-2
- 6-2-2
- 6-2-2 w/sleeve
- 5-3-1 w/sleeve
- 4-4-2 w/sleeve
- 3-4-2 w/sleeve
- 2-5-2 w/sleeve

20m/s Water Data - Low Frequency



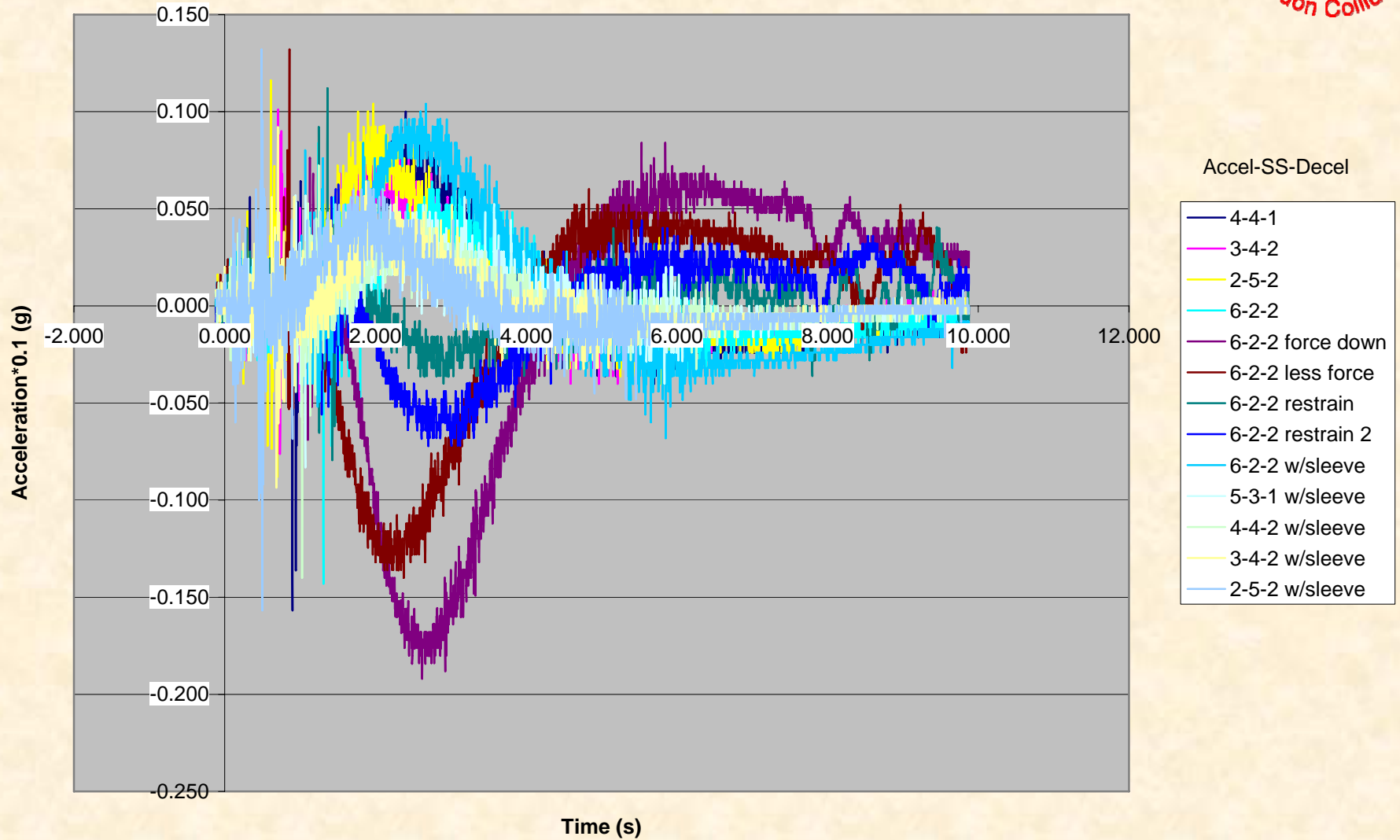
Accel-SS-Decel

- 4-4-1
- 3-4-2
- 2-5-2
- 6-2-2
- 6-2-2 w/sleeve
- 5-3-1 w/sleeve
- 4-4-2 w/sleeve
- 3-4-2 w/sleeve
- 2-5-2 w/sleeve

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20 m/s Water Data





Observations

- **Ramp-up time can affect amplitude of vibration**
- **Suggests less vibration issues if beam pulse occurs later on the steady-state portion of jet profile**
- **Comparison of diagnostic images to vibration data not yet completed**
- **Water vibration data is interesting for reference, but may not correlate with Hg data**



Next Steps

- **Observe effects of shortening nozzle tip**
 - Current nozzle tip length ~70mm
 - Design length ~5mm
- **Switch to Hg**
 - Drain water, clean viewports, dry primary containment
 - Reassemble primary & pressure test
 - Close secondary containment and leak check