Depth Dependent Effect Study

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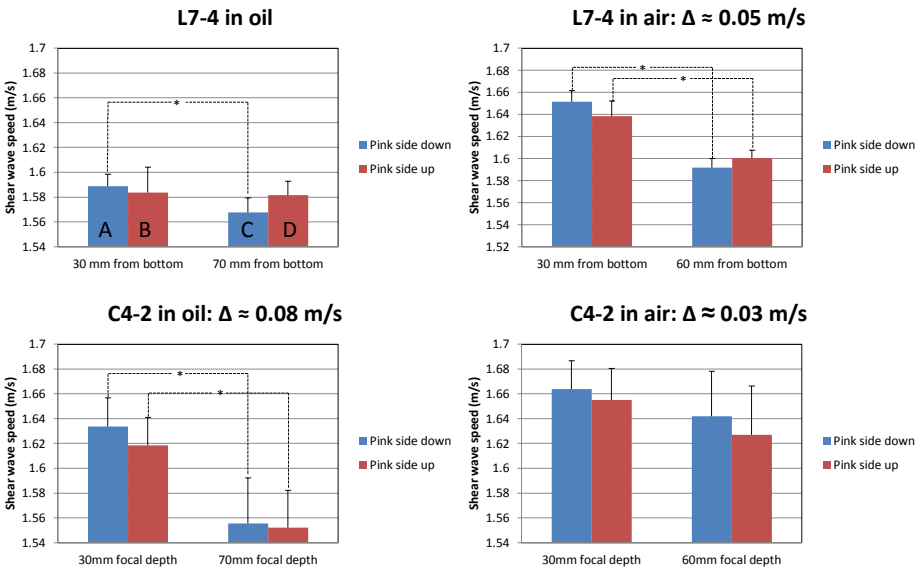
1

CIRS Phantom

1. Phantom specification:
   - Zerdine®, 10 cm cube without container
   - Top side during pouring is marked by pink color
2. Verasonics with L7-4 ***from side***:
   - In air (height 9 cm), and in mineral oil (height 10 cm)
   - 3 cm, 6/7 cm from bottom, flip phantom and repeat
   - Fixed 2.5 cm focal depth, 8 total readings from 4 sides, gel/oil coupling
3. Verasonics with C4-2 ***from top***:
   - In air (height 9 cm), and in mineral oil (height 10 cm)
   - 3 cm, 6/7 cm focal depth, then flip phantom and repeat
   - Water well coupling, 16 readings (rotate Tx)




2



- All experiments have single tail t-test of A-B, C-D, A-C, B-D, *p<0.01

Observations

1. Phantom seems uniform: no significant difference between red and blue columns (8 pairs)
2. Squeezing due to gravity increases speed at phantom bottom (phantom with container may have less squeezing?)
3. Depth dependent effect is partially cancelled by gravity squeezing effect
4. Depth effect due to transducer is less than 0.1 m/s in this experiment

4