

## **ACOUSTICS2008/845**

### **Geo-acoustic inversion with adaptive beamformed data**

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Geo-acoustic inversion with matched field replicas constructed by adaptive techniques lacks robustness, because localizations with such techniques are sensitive to model mismatch[Soares, Jesus, and Coelho, *J. Acoust. Soc. Am.* 122, 3391-3404 (2007)]. Instead of adapting the matched field weights, inversion with adaptive beam-formed (ABF) plane wave sub-aperture data produces accurate source localizations for ships of opportunity[Stotts and Hawkins, *J. Acoust. Soc. Am.* 118, 1857 (2005)]. Model inputs to the matched-field cost function are evaluated at sub-aperture phase centers in this approach. The main purpose of this talk is to demonstrate the robustness and accuracy of solutions obtained from geo-acoustic inversion using plane wave ABF data. Improvements over either single element or conventional plane wave beam-formed (CBF) sub-aperture data for geo-acoustic inversions and simultaneous geo-acoustic inversions/source localizations using a source of opportunity in real data containing interferers will be demonstrated.