

**Presentation at the 69th Meeting of the
Scientific Committee of National Representatives
8 - 10 October 1996**

**Instituto Superior Naval de Guerra
Lisboa, Portugal**

by

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**Shallow water tomography for internal tide estimation:
preliminary results of INTIMATE'96.**

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Newark, USA



INTIMATE Partnership

- Sérgio M. Jesus
UCEH - University of Algarve
Faro, Portugal
- Yann Stephan
CMO - SHOM
Brest, France
- Emanuel F. Coelho
Instituto Hidrográfico
Lisboa, Portugal

with the collaboration of

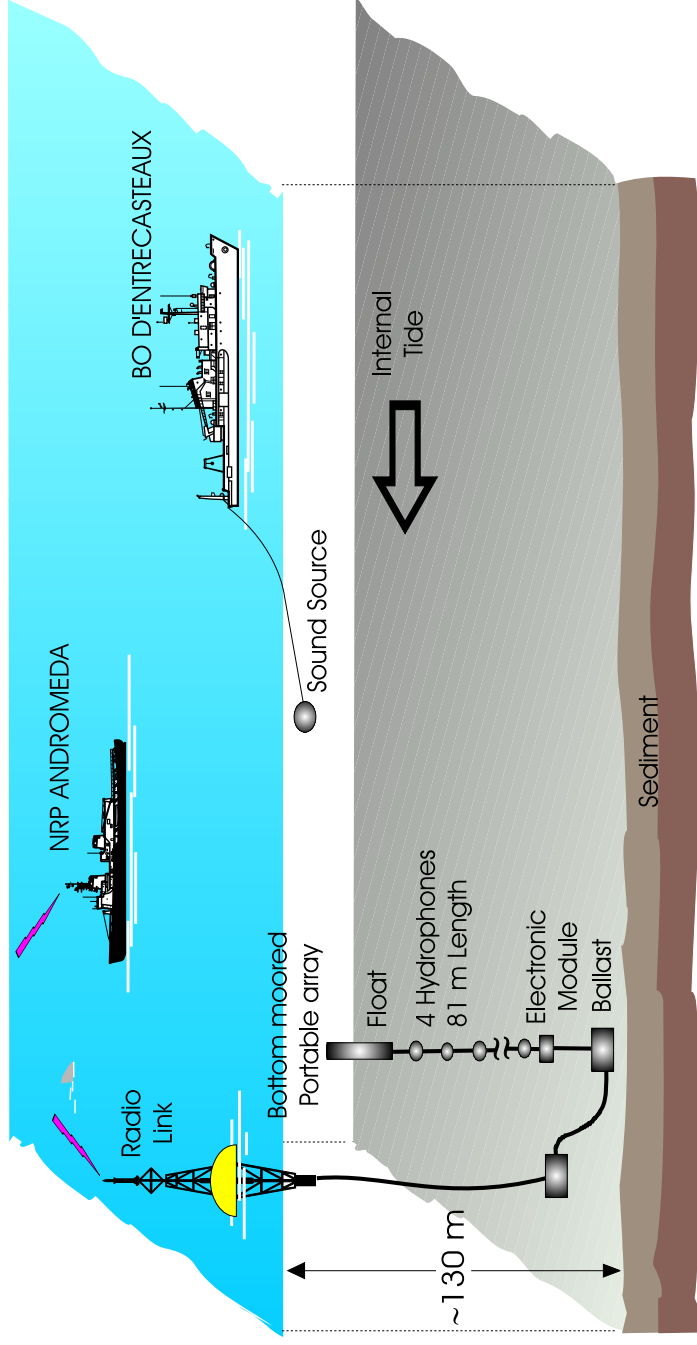
- Michael M Porter
New jersey Institute of Technology

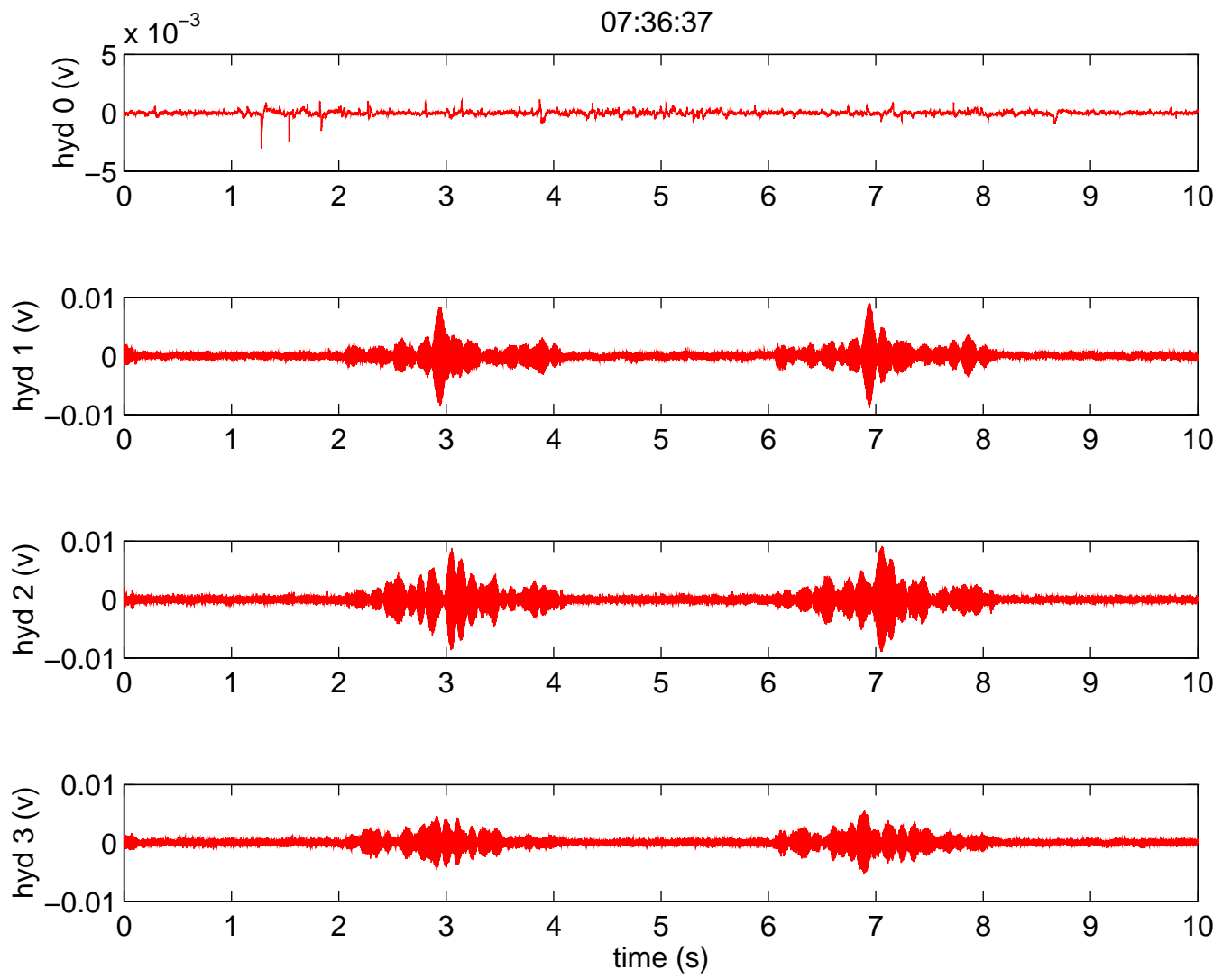
Internal **T**ide Measurement with **A**coustic **T**omography **E**xperiments (**INTIMATE**)

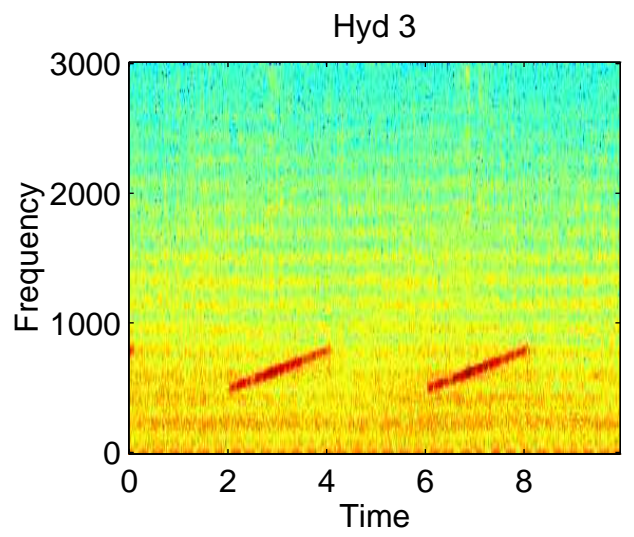
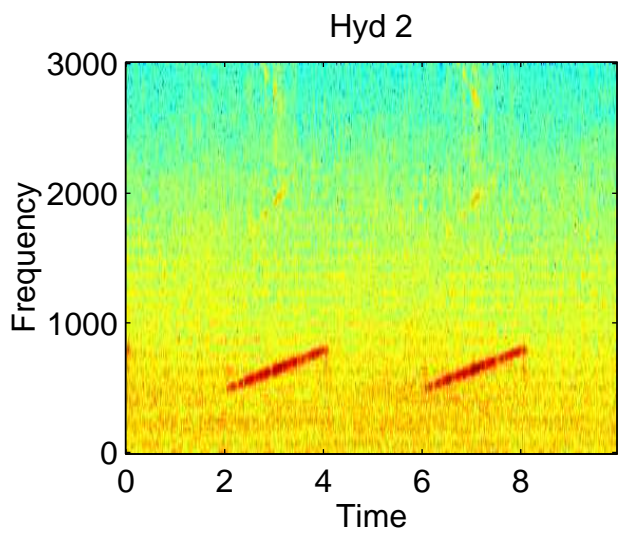
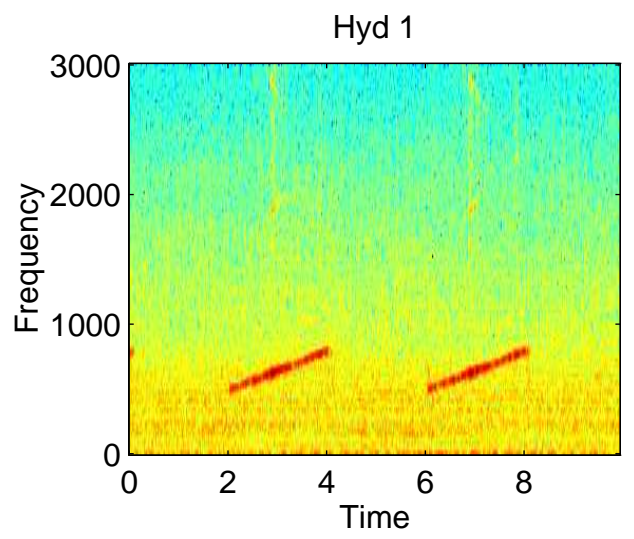
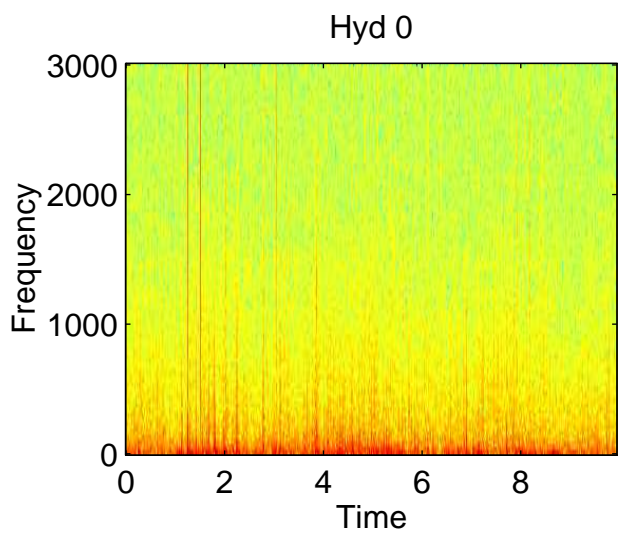
Objectives

- to establish the capabilities of acoustic tomography for estimating internal tide parameters in shallow water
- design experimental equipment and methodologies for inverting acoustic data in shallow water

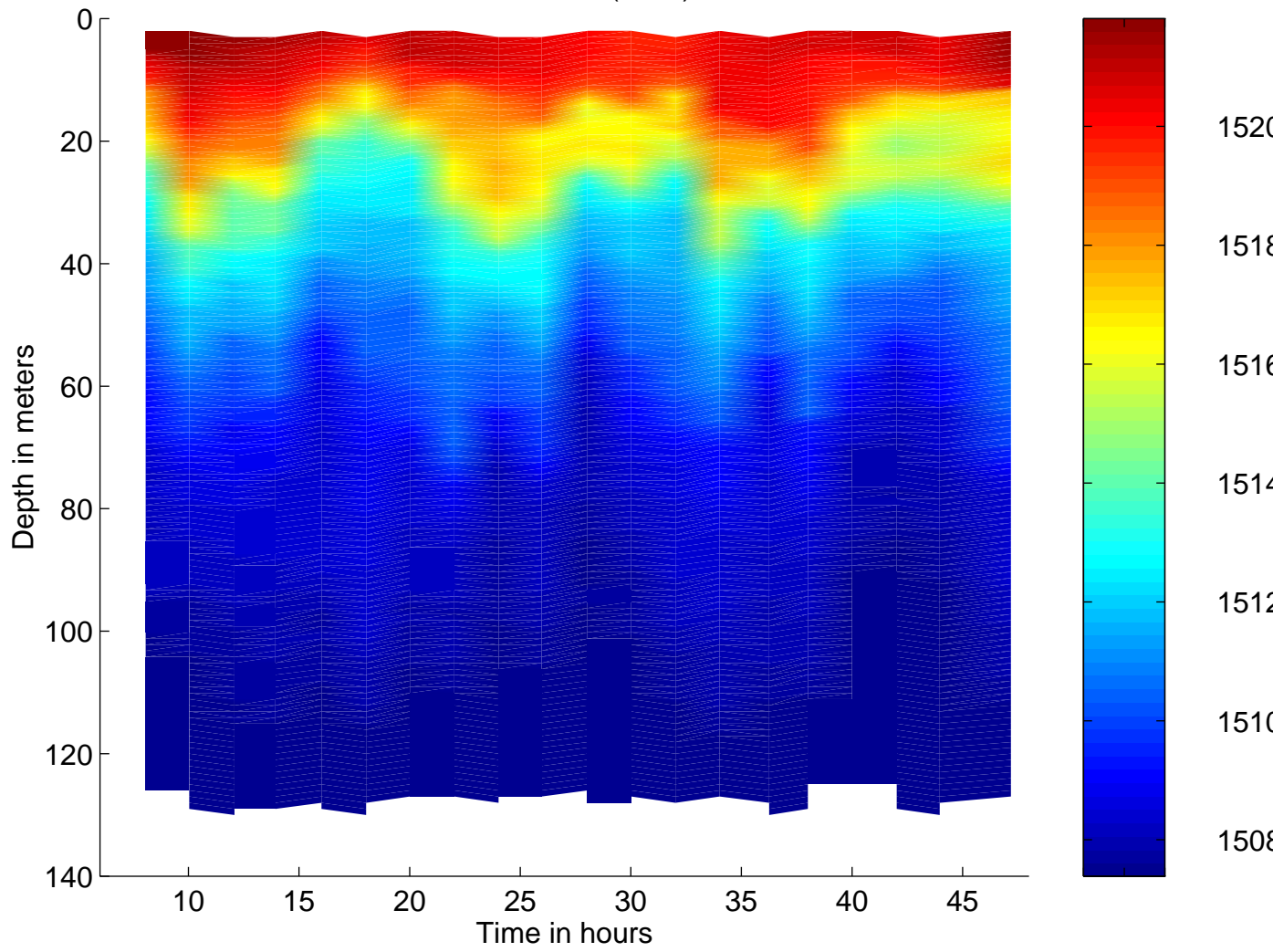
Real Data Acquisition Scenario INTIMATE'96, JUN 1996 - NW Nazaré site



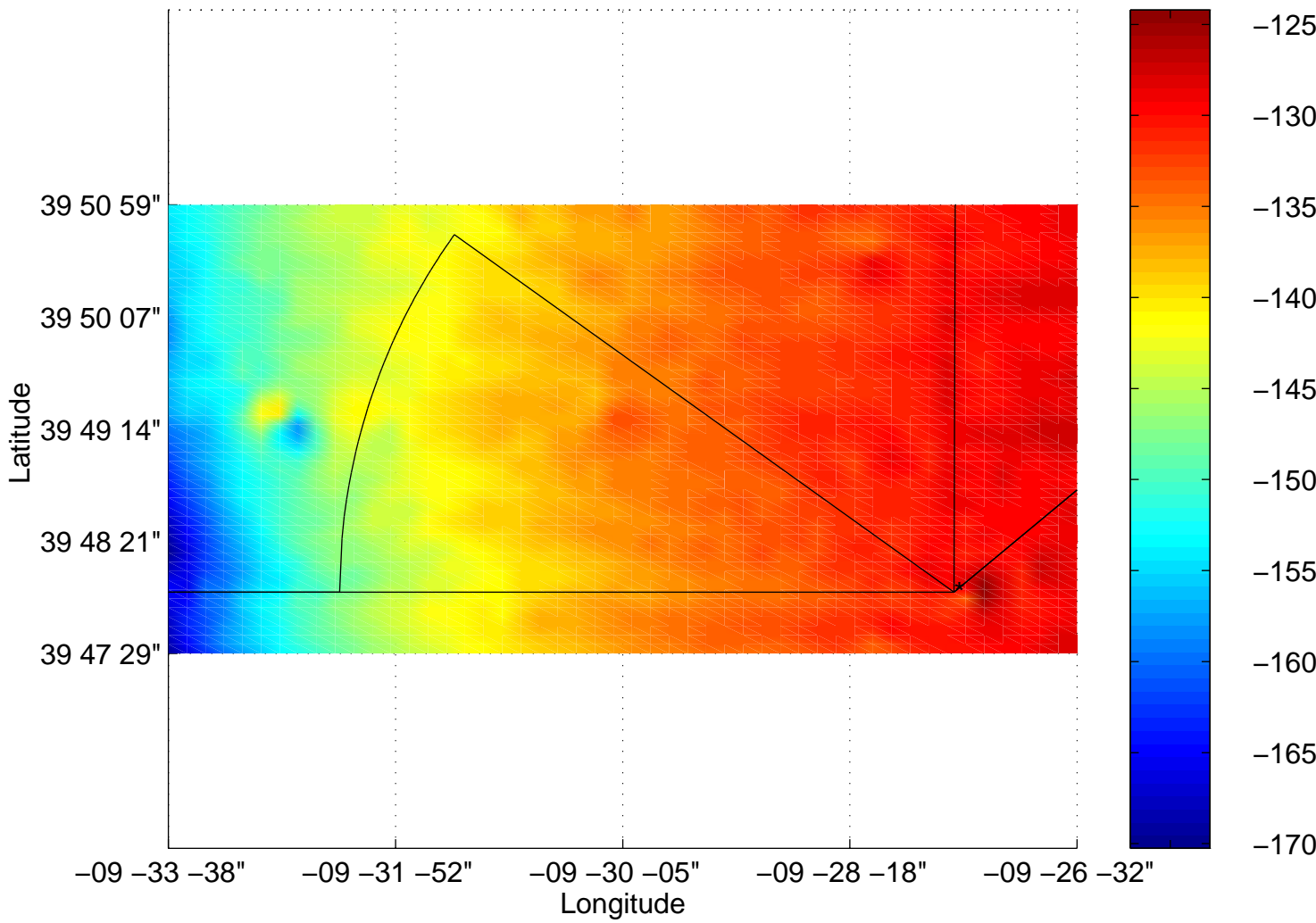




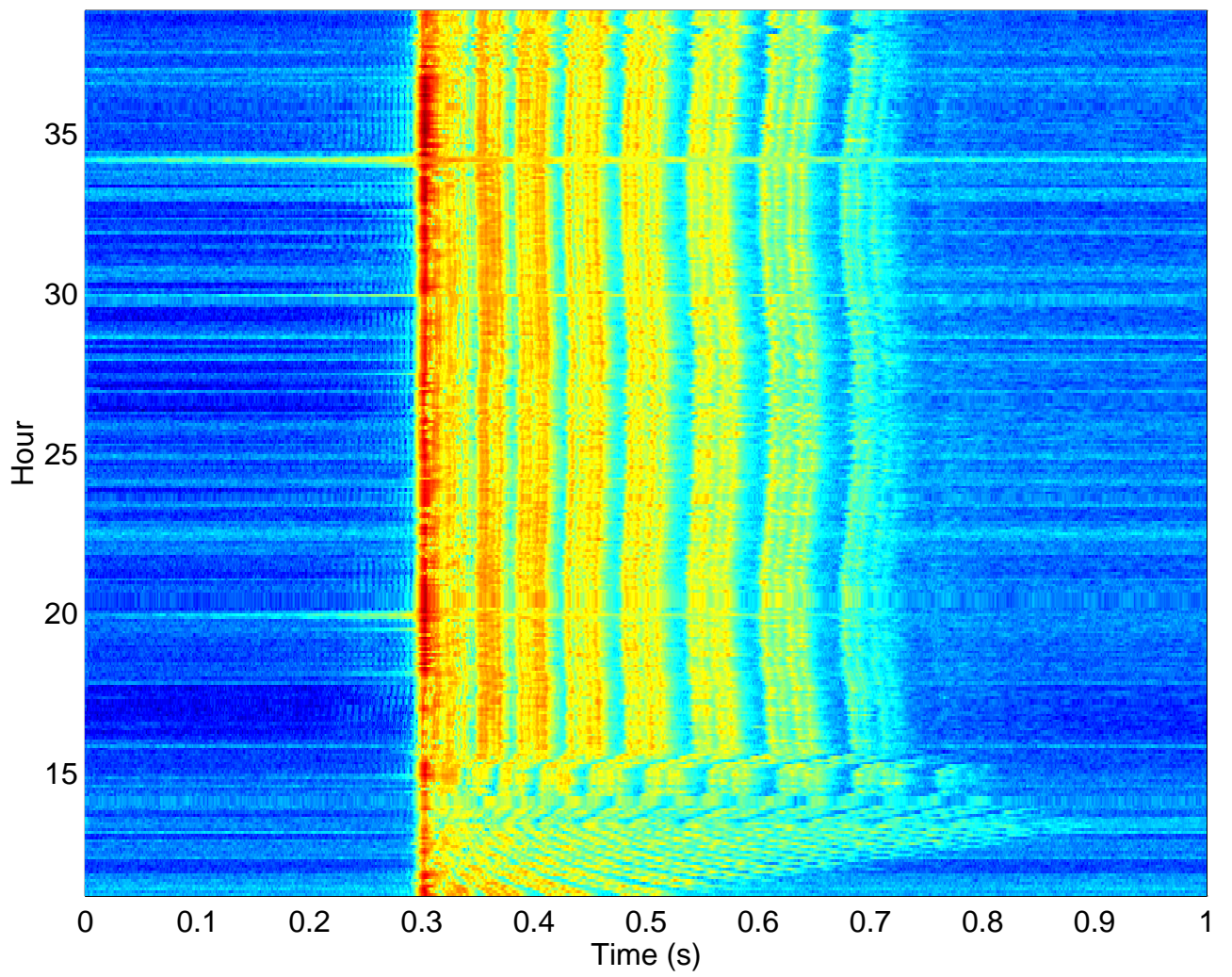
INTIMATE 96, Sound V. P. (m/s) – 96Jun16–17



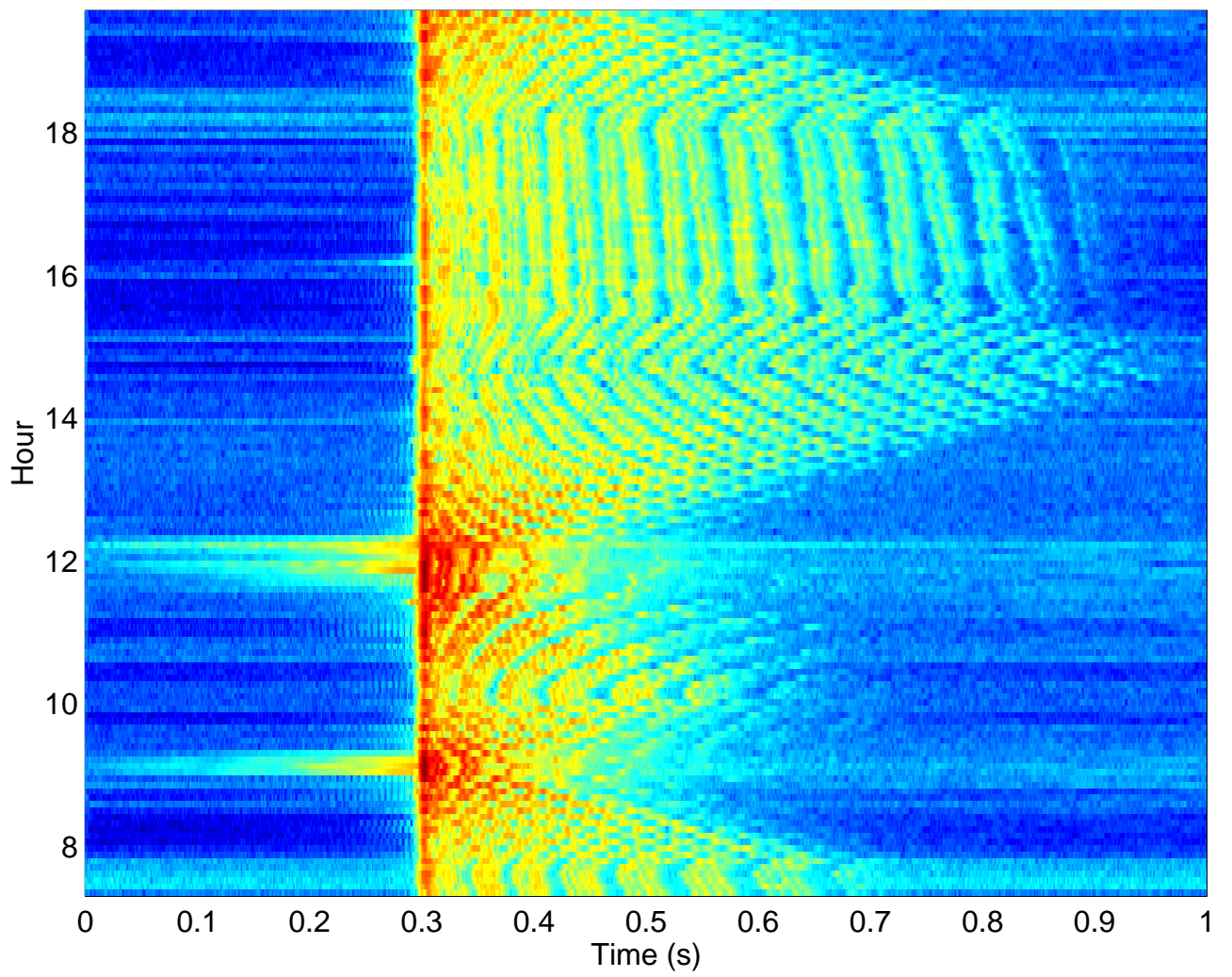
INTIMATE 96: Events I,II and III



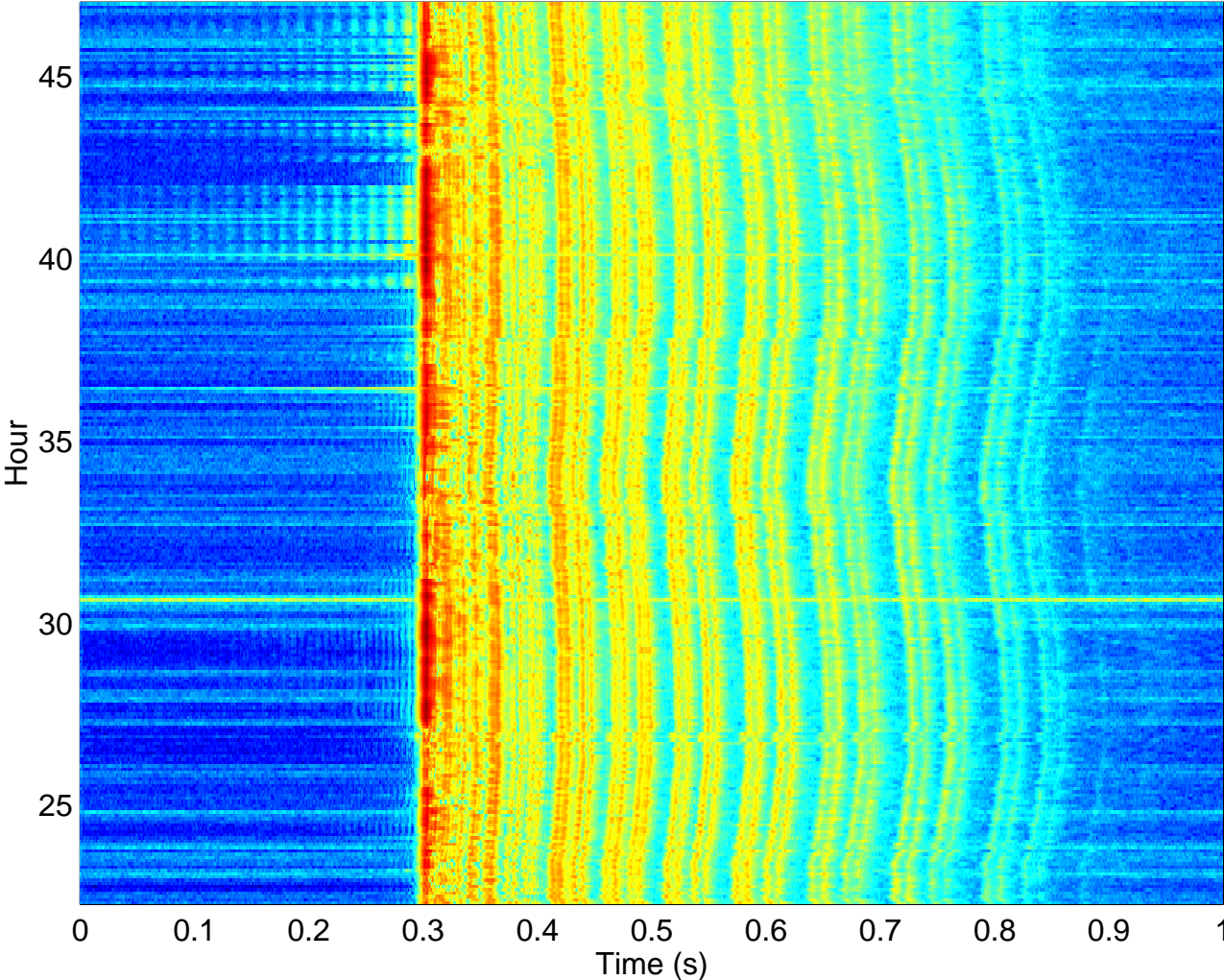
Event I: stack correlograms, start 11:09



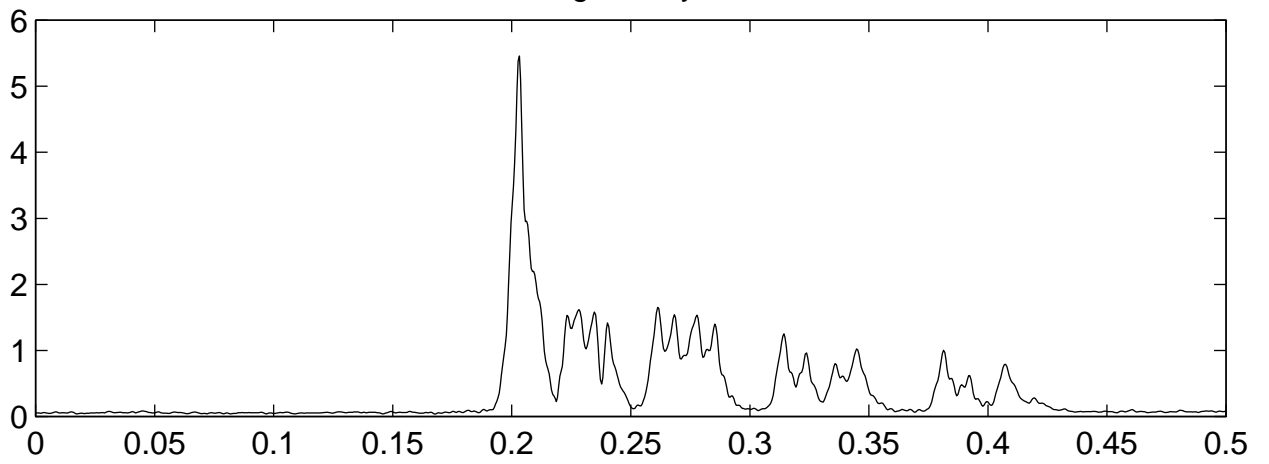
Event II: stack correlograms, start 07:18



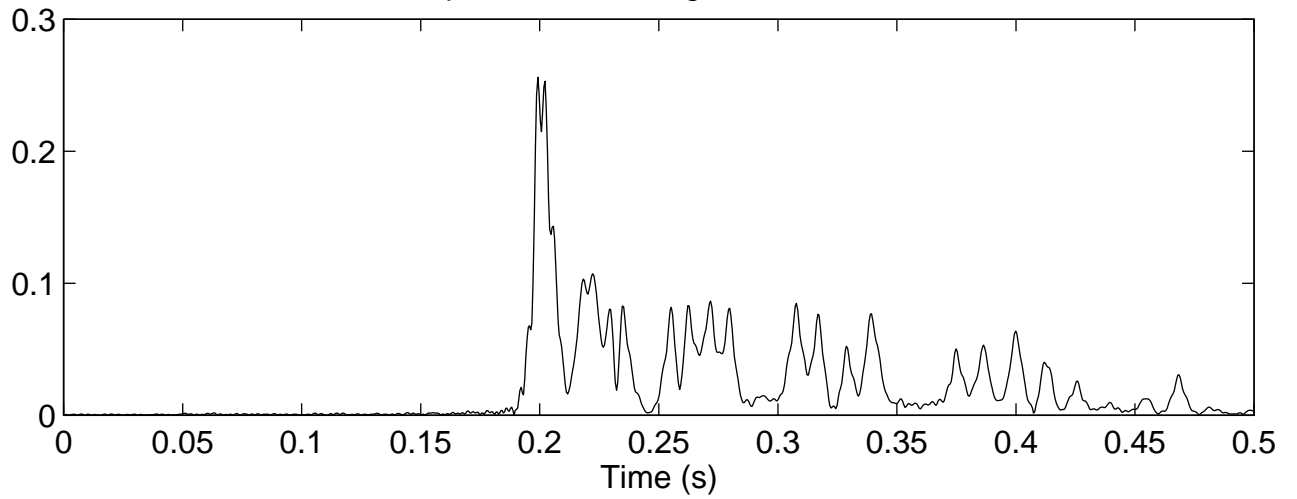
Event III: stack correlograms, start 22:16



Received correlogram, hyd #4, R=2.86 km



C-SNAP predicted correlogram, 115m, R=2.9 km





Conclusions

- very stable propagation path
- high correlation with model predictions
- data set with potential for source localization, geophysical inversion and oceanographic tomography