



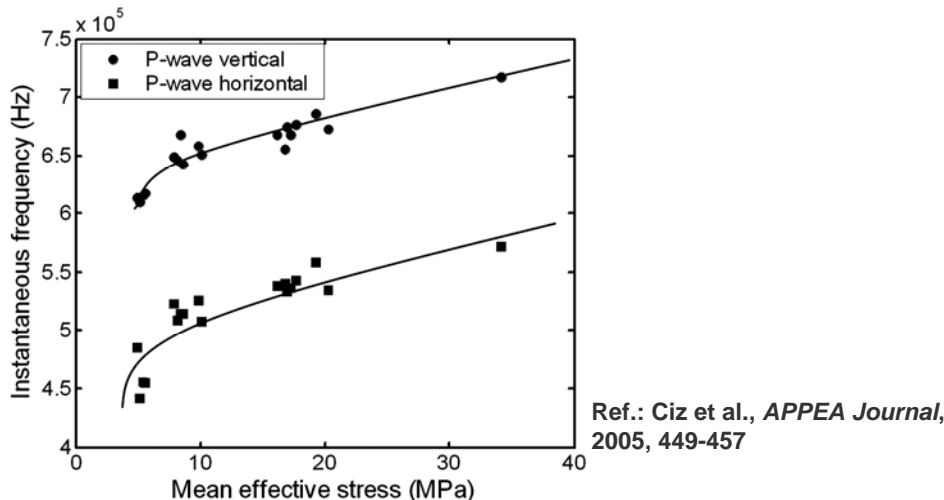
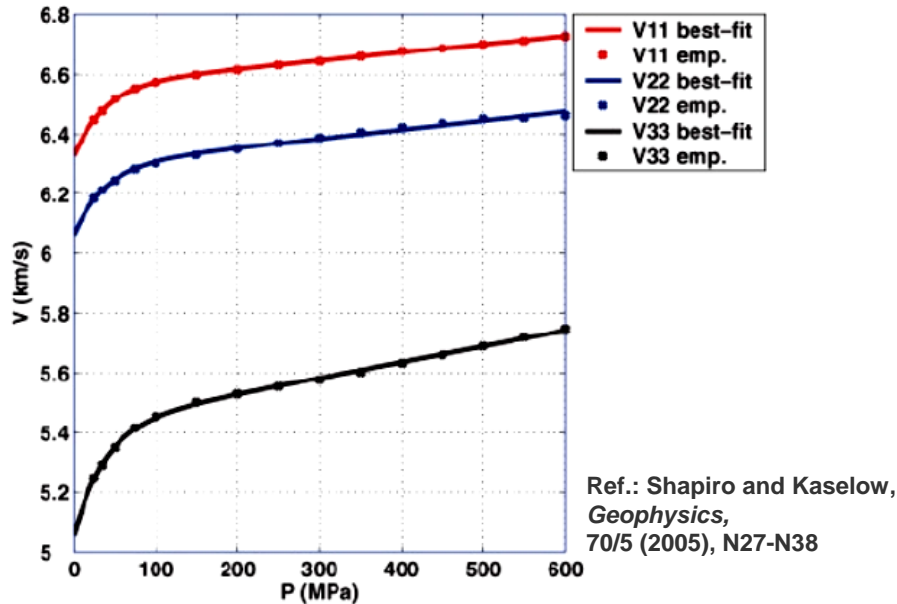
Seismo-Acoustic Signature Analysis of Temperature and Pressure Dependent Porous Rocks

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Pressure Dependency & Seismo-Acoustic Signatures



- The Stress sensitivity theory (Shapiro and Kaselow, 2005) describes the seismo-acoustic signature of pressure dependent rocks:

$$V(P) = A + KP - B \exp(-PD)$$

A → the influence of lithology

K → the influence of the stiff pores

B and D → the influence of compliant pores

- The seismo-acoustic signatures can help establishing a remote prediction of a pressure driven phenomenon, such as abnormal geo-pressure (over-pressure).

- **The seismo-acoustic signature of temperature dependent rocks?**

Seismo-Acoustic Signature Analysis (1)

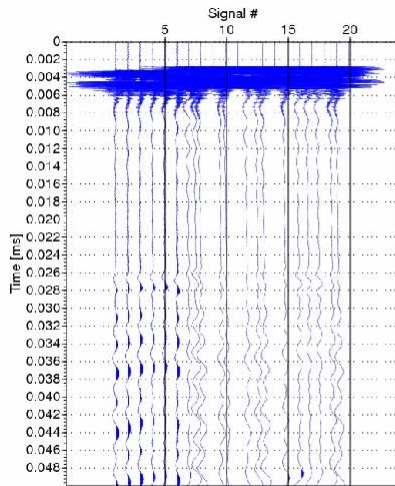
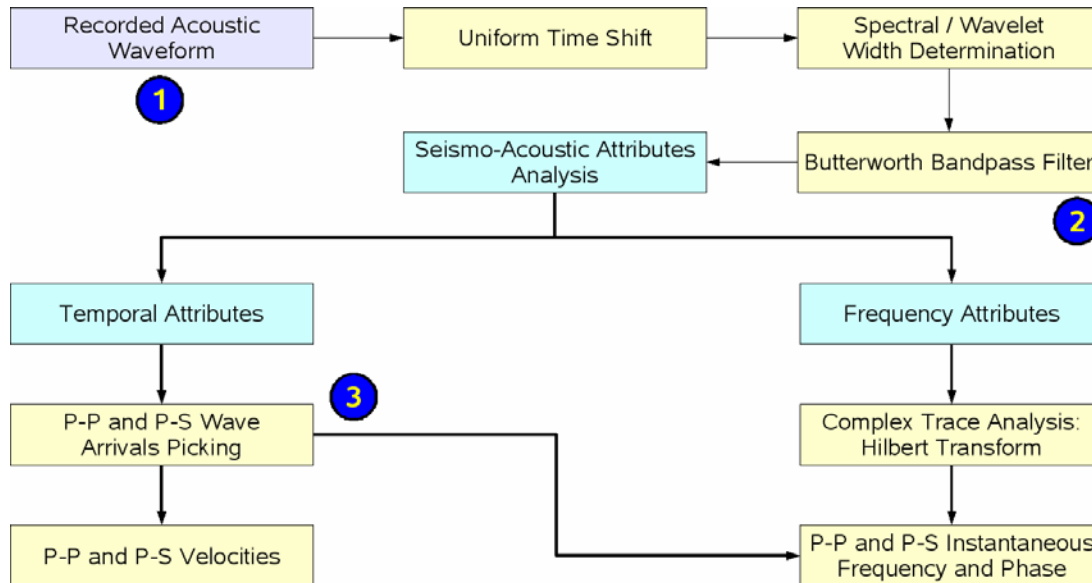


Figure 1

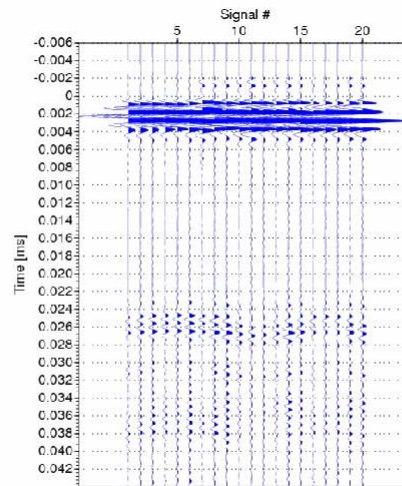


Figure 2

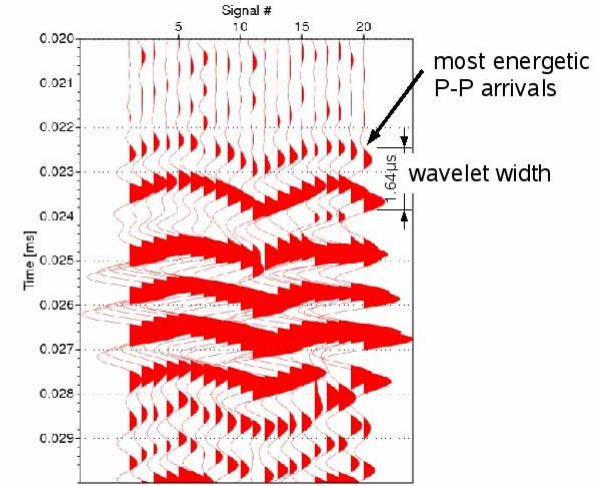
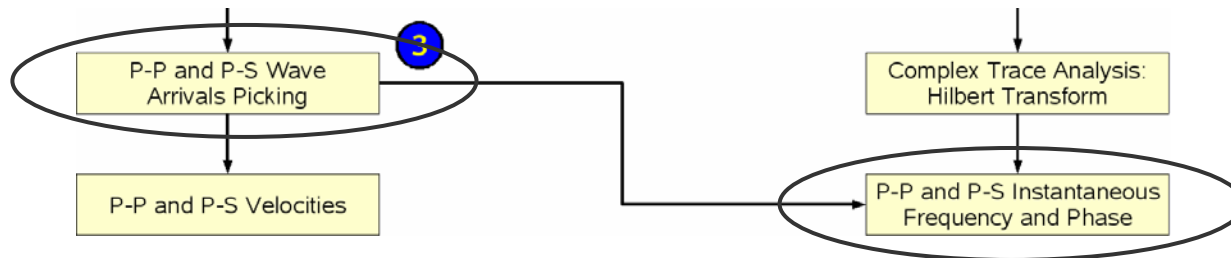
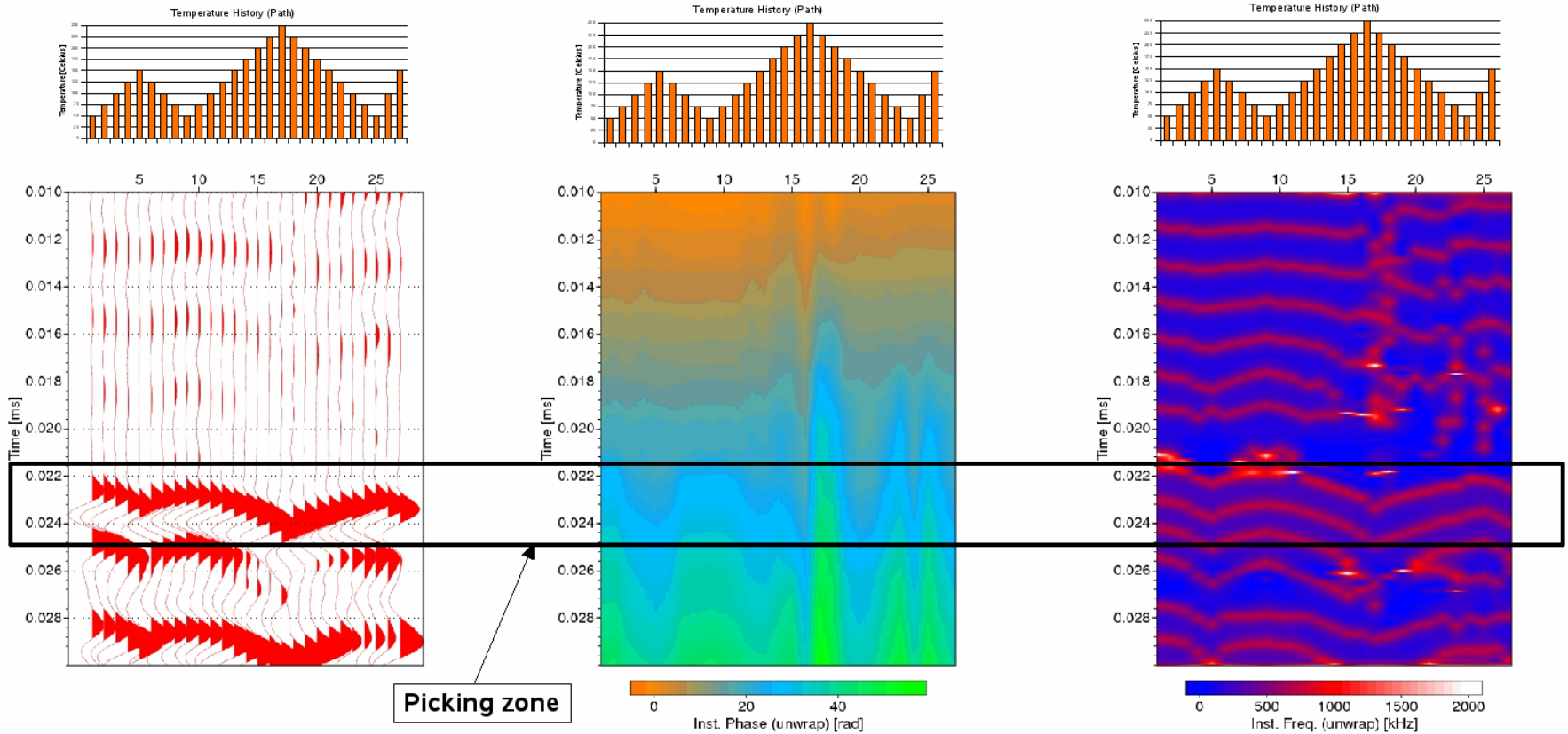


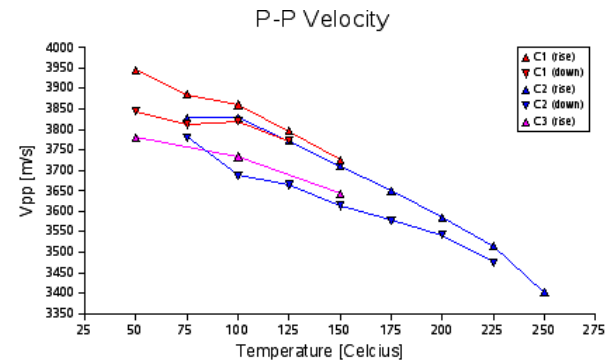
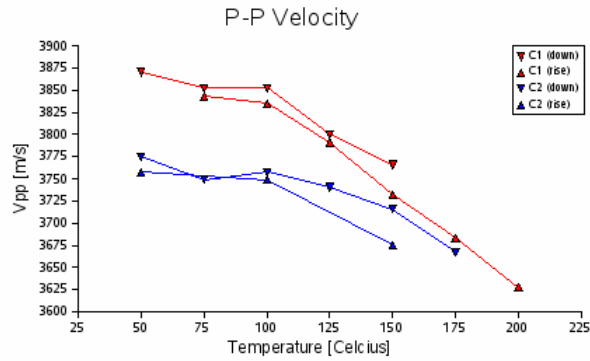
Figure 3

Seismo-Acoustic Signature Analysis (2)



Seismo-Acoustic Signature Analysis (3)

Sample 58



Sample 3A

