



P442

## In search of the missing frequencies for more quantitative reservoir characterization

*Peter Mesdag*

### **Summary**

*For quantitative reservoir characterization it is necessary that all frequencies up to the highest frequency are represented in the subsurface model. Seismic velocities from processing are often used for the very low frequencies or trends. Seismic reflectivity data is used to fill in the detail of the reservoir model. There is a missing frequency band between the highest frequency of the seismic velocities and the lowest frequency in the seismic reflectivity data.*

*Geophysicists attempting to perform quantitative reservoir characterization have always struggled to fill in the missing frequency band. Simply interpolating well information will mostly bias the reservoir model towards a more favorable interpretation, while just sticking to the background trend will often produce an under-estimation of the reservoir quality. In the past decades several methods were introduced to remove the bias of the prior model.*

*In this presentation a choice of methods will be highlighted that have been successfully used in real projects to derive meaningful and quantitative reservoir parameters.*

*Will the advent of new seismic acquisition techniques remove the burden of low frequency modeling from our reservoir characterization workflows?*