Prediction of hydrocarbon accumulations using the Nonlinear inversion of Seismic data

Said Eladj (1) and Sid Ali Ouadfeul (2)

(1) Laboratoire de Pysique de la Terre (LABOPHYT), Université de Boumerdès, (2) Goesciences and Mines Department , IAP, Algeria

Inversion is a mathematical technique used to estimate system characteristics, knowing its response to a given excitation.

The inversion of seismic data seeks to address the fundamental issue of oil exploration is the determination of the spatial distribution of rock properties from observations made at the surface. The inversion of seismic data is based on the comparison of data acquired with synthetic data. The acquired data are the seismic sections processed using the preserved amplitude method. The synthetic data are calculated from a geological model given a priori.

Keywords: Inversion , Seismic data , synthetic data, rock properties