Advanced Seismic Processing in 2D and 3D - Application to Sedimentological and Stratigraphic Interpretation

J.P. CORDIER, Societe Nationale Elf Aquitaine (M)

The base of the seismic stratigraphy (definition of the seismic sequences) are briefly recalled, with presentation of a few examples, the two main characteristics of a seismic sequence: geometry and seismic facies are analysed. Then, the various technics of seismic processing which can improve either the geometry or the determination of seismic facies are reviewed; as little theory as possible is used, many examples are shown:

(1) For the geometry definition:
- *Residual static corrections*
- *Velocity analyses - internal velocities*
- *Migration*
- *FK Filtering*

(2) For a better knowledge of the signal characteristics:
- *Stratigraphic deconvolution*
- *Pseudologs of acoustic impedance*
- *Preservation of amplitudes*
- *Complex analytic signal*
- *Synthetic seismograms*

It is shown that the use of 3D surveys gives a much better fault delineation and structural resolution than 2D surveys.

Finally some examples of lithologic and stratigraphic predictions from seismic data are discussed.

******