Geophysical Research Abstracts
Vol. 14, EGU2012-8336, 2012
EGU General Assembly 2012

Lithofacies recognition from well-logs data using the Self-Organizing Map neural network. A case study from the Berkine basin (Algeria).

S. Ouadfeul (1,3), L. Aliouane (1,2), M. Hamoudi (1), and A. Boudella (1)

(1) Geophysics Department, FSTGAT, USTHB, Algeria., (2) Geophysics Department, LABOPHYT, FHC, UMBB, Algeria., (3) Algerian Petroleum Institute, IAP, Algeria.

In this work, we use the self-organizing map (SOM) neural network model proposed by Teuvo Kohonen (1998) for lithofacies classification from well-logs data of two boreholes located in the Berkine basin (Algeria).
Firstly a pilot borehole is used to train the SOM neural network machine; the goal is to determine the weights of connection between neurons of the map, the core rock data is used for the SOM indexation.
The next step consists to use the self organizing map neural network model to predict the lithofacies for the second borehole, at this step the weights of connection calculated for the first borehole are used. Comparison with core rock data shows that the SOM neural network model can be used for lithofacies prediction for well-logs data.
Keywords: SOM, classification, lithofacies.
References:
Kohonen , T. 1998 . Self Organization and associative memory pringer Series in Information Sciences ,8 , 2nd edn (Berlin :Springer)