



A comparative study of some Artificial Neural Network models for lithofacies classification from well-logs data

L. Aliouane (1,3), S. Ouadfeul (2), N. Djarfour (3), and A. Boudella ()

(1) LABOPHYT, UMBB, Algeria (lil_aldz@yahoo.fr), (3) Geophysics Department, FSTGAT, USTHB, Algeria., (2) Algerian Petroleum Institute, IAP, Algeria.

The objective of this work is to compare between three neural networks classifiers. The multilayer perceptron (MLP), Bayesian and Kohonen neural models have been used. Data of two boreholes are exploited. The neural network models are trained by the following well logs data: Gamma ray, Density, Neutron porosity, Sonic and Photoelectric absorption coefficient. For the supervised learning the core rock data are used as an output, however for the unsupervised learning core rock data are used for the Kohonen's map indexation.

Obtained results show that the Self-Organizing Map (SOM) neural network model proposed by Kohonen is more suitable for lithofacies classification.

Keywords: Classifiers, neural network, MLP, Bayesian, SOM, well-logs data.