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Reservoir fluid delineating from well-logs data using neural network

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The main goal of proposed idea is to delineating fluid contacts form well-logs data in the reservoir, first we calculate the Holder exponent using the continuous wavelet transform of a set of well-logs data.
The estimated Holder exponents are used to train a self-organizing map neural network model in an unsupervised learning. The estimated Weights of connection are used to run the obtained SOM map.
The output of this classification can give information about limits of each fluid contact. Application of the proposed idea on a borehole located in the Algerian Sahara show that the proposed technique is a powerful tool for reservoir characterization.
Keywords: fluid contacts, SOM, reservoir characterization