Abstract

The main goal of this paper is to design and develop a new technique and software tool that help automatic lithofacies segmentation from well logs data. Lithofacies is a crucial problem in reservoir characterization and our study intends to prove that techniques like wavelet transform modulus maxima lines (WTMM) and detrended fluctuation analysis (DFA) approaches allow geological lithology segmentation from well logs data. On the one hand, WTMM prove to be useful for delimitation of each layer. We based on its sensitivity on the presence of more than one texture. On the other hand, DFA is used to enhance the estimation of the roughness coefficient of each facies. We have used them jointly to segment the lithofacies of boreholes located in the Algerian Sahara. Obtained results are encouraging to publish this method because the principal benefit is economic