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## The new multipurpose neutron generator MANK

Kirgizov D., Kosarev V., Lukhminsky B., Teplyakov A.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

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### Abstract

A new multi-purpose hardware-software system based on high-frequency pulsed neutron generator (MANK) is described. The main differences between this device from other devices of pulsed neutron logging (PNL) include: two probes, with each probes consists of a three epicadmium and thermal neutron counters, an variable frequency and duration of the fast neutron pulses. The device can measure the slowing-down time of neutrons, and determine the porosity of the reservoir with high sensitivity and weak influence of lithology, mineralization of the borehole and formation fluids. It is also possible the measurement of macro cross-section of thermal neutron capture ( $\Sigma$ ). There was completed computer (Monte-Carlo) optimization of the device, obtained a series of modeling and borehole measurements, obtained a set of interpretation charts for main parameters. Copyright 2012, Society of Petroleum Engineers.

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