OMICS Group
Conferences
Accelerating Scientific Discovery

World Congress on
Petrochemistry and Chemical Engineering
November 18-20, 2013 Hilton San Antonio Airport, TX, USA

Analysis of heavy oil thermal recovering method through electromagnetic radiation using wavelet transform

M. Dantas Santos[1], A. D. Doria Neto[2], J. P. da Silva[2] and W. da Mata[2]
[1]Federal University of Paraíba, Brazil
[2]Federal University of Rio Grande do Norte, Brazil

This work proposes a model to investigate the use of a cylindrical antenna used in the thermal method of recovering through electromagnetic radiation of high-viscosity oil. The antenna has a simple geometry of the type adapted dipole and it can be modeled by using Maxwell's equation. The Daubechies wavelets transformed are used as basic functions and applied in conjunction with the moment method to obtain the current distribution in the antenna. The electrical field, the power and temperature distribution are obtained for application of the antenna as electromagnetic heating.

Biography

M. Dantas Santos graduated in Mathematics from Federal University of Paraíba (2002), MS in mathematics from the Federal University of Campina Grande (2005) and a Ph.D. in Science and Petroleum Engineering from Federal University of Rio Grande do Norte (2010). He is currently associate professor of Federal University of Paraíba. He has experience in Chemical Engineering, with emphasis in Petroleum Engineering, acting on the following topics: antennas, electromagnetic heating, oil recovery, wavelets and partial differential equations.

mdantas25@yahoo.com.br

J Pet Environ Biotechnol 2013
ISSN: 2157-7463, JPEB an open access journal

Petrochemistry-2013
November 18-20, 2013

Volume 4 Issue 6

Page 183