原子能科学技术 2009 43 (增刊): 116-123 ISSN: 1000-6931 CN: 11-2044/TL

技术及应用

我国脉冲中子测井技术发展综述

张锋

中国石油大学(华东) 地球资源与信息学院，山东 青岛266555

收稿日期 修回日期 网络版发布日期:

摘要 脉冲中子测井是以脉冲中子源产生快中子，与井眼和地层物质元素原子核发生作用，通过记录γ射线或热中子，从而进行含油饱和度、孔隙度及水流量等地质和工程参数确定的测井技术。概述了国外几种饱和度测井和氧活化水流测井技术及国内对仪器的引进和应用情况，总结了国内中子寿命和碳氧比能谱测井仪的研发历程，并对我国脉冲中子测井技术的发展前景和突破口进行了阐述。

关键词 脉冲中子测井技术 技术引进 自主研发

分类号

Summary of Development for Pulsed Neutron Well Logging Technology in Our Country

ZHANG Feng

College of Geo-Resources and Information, China University of Petroleum, Qingdao 266555, China

Abstract The pulsed neutron well logging is a logging technology that the geological and project parameters of oil saturation, porosity and water flow can be determined by recording gamma ray or thermal neutron, which are produced through reaction of fast neutrons produced by pulsed neutron source with nuclei in bore hole and formation material. Several kinds of logging technology to determine oil saturation and oxygen activation water flow, as well as the introduction and application of these instruments in domestic, were sketched out. The research and development of neutron lifetime and carbon oxygen ratio spectrum logging instrument in domestic were summarized simultaneously, and the prospect and breakthrough in pulsed neutron well logging technology in our country were elaborated.

Key words pulsed neutron well logging technology _ technology introduction _ independent research and development

DOI

通讯作者