**International Academy of Science,
Engineering and Technology**
Connecting Researchers; Nurturing Innovations
IASET

MULTI-ELEMENTAL ANALYSIS OF CRUDE OILS FROM NIGER DELTA NIGERIA USING INSTRUMENTAL NEUTRON ACTIVATION ANALYSIS

AGAJA S A[1], OJI E[2], IWOGBEMI B[3], AJISAFE J. I[4] & BWALA S. A[5]

[1,4]Industrial Safety and Environmental Technology, Nigeria

[2]Department of Physics, Federal University of Technology, Owerri, Imo State, Nigeria

[3]Petroleum Analysis Laboratory, Nigeria

[5]Department of General Studies, Petroleum Training Institute, Effurun, Delta State, Nigeria

ABSTRACT

Trace elemental analysis using Instrumental Neutron Activation Analysis (INAA) of Crude Oils from seven oil fields in Niger Delta, Nigeria was studied, using Ghana Research Reactor (GHARR-1) operating at 15kW at a thermal flux of 5×10^{11} ncm^{-2}s^{-1}. From the results nine trace elements were identified: Al, Br, Ca, Cl, K, Mg, Mn, Na, and V. This study and previous ones have shown that crude oils from Nigeria are lower in metal content compare to other crude oils elsewhere around the globe. The concentration ranges of the trace elements varied significantly ($P<0.05$) from field to field.

KEYWORDS: INAA, Crude Oils, Nigeria