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The Study of Industrial Process with Radioactive Tracer RTD Method Enhanced System Analysis

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Radioactive tracers RTD method is one of the most common nuclear techniques used for troubleshooting and optimizing industrial processes involved in different industries such as petroleum, petrochemicals, chemicals, ore mining, cement and waste water treatment . The technique is easily implemented with simple concept of instantaneous impulse response so called Dirac. On the last decades, significant development has been done with the advent of new equipments, electronics, portable computers and software. However the style and quality of the results itself has not considerably changed since its beginning. Correct data gathering and system analysis, interpretation and reporting are abilities often difficult to go with or require a long time of training and experience. This paper describes our attempts on developing a new approach on the radiotracer RTD technique using Tc-99m radiotracer to measure the RTD of closed circuit water flow rig tank. The data has gathered and treated using both Dirac and non-instantaneous impulse. The paper shows and discusses the comparative results of some experiments conducted.

Country/Organization invited to participate

Sudan

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