Contribution ID: **68** Type: **Poster**

Determination of Some Flow Properties of a Clinker Grinding Mill Through Radio-Tracing and Residence Time Distribution (RTD) Modeling

Thursday, 27 August 2015 14:00 (1h 30m)

Some flow properties of a cement mill have been determined using radio-tracing with liquid tracer Gold chloride, AuCl-198. Analysis of the response curve with appropriate software indicated an experimental mill mean residence time of 833.4 seconds. The experimental Peclet number calculated as a function of the mean residence time and the variance was 1.65E-3 corresponding to a dispersion coefficient of 0.8 m2/s. The dispersion of the flow was further investigated by curve-fitting the experimental results with the simple axial dispersion model. A mean residence time of 967 seconds and a Peclet number of 30 gave the best fit with a diffusivity of 5E-4 m2/s .

Country or International Organization

Ghana

Primary author: AFFUM, Hannah (Ghana Atomic Energy Commission, Ghana)

Co-authors: Mr APPIAH, Godfred (Ghana Atomic Energy Commission); Mr MUMUNI, Ishmael (Ghana Atomic Energy Commission)

Presenter: AFFUM, Hannah (Ghana Atomic Energy Commission, Ghana)

Session Classification: Session 11B: Posters: Nuclear Applications