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

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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  $0.8 \text{ m}^2/\text{s}$ . 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  $5E-4 \text{ m}^2/\text{s}$ .

### Country or International Organization

Ghana

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