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**Radiotracer Applications for Determination of Flow Parameters**

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**Abstract**

Radiotracer techniques are very useful tools to investigate many parameters in different areas for various purposes. It is extensively used all over the world as a method to identify for industrial flow distribution and flow parameters successfully. Many of the radioisotope can use as radiotracer. Therefore, radioactive tracers are the sensitive and reliable of various dealings. In this study, radiotracer approaches were introduced for determination of flow parameters in pipe flows and open channel flows. Firstly, importance of selection the radioisotopes were noticed and introduce some preferable radioisotopes for radiotracer applications in flow investigations. Main concern for flow is velocity and related parameters. Peak to peak methods applications and radiotracer balance methods verified for the determination of flow velocities in pipe flow and open channel flow. Turbulent flows have irregular motion that is possible to describe with the laws of probability. As known that is there two main metaphors as namely Eulerian and Lagrangian descriptions for flow dispersion. Lagrangian description is often convenient for introducing the turbulent transport phenomena. For the sensitive assessment for dispersion of the turbulent flow, radiotracer application is appropriate for the experimental searches. In the mean of Brownian fluctuations, flow parameters are uncorrelated for a long time period. Therefore, Lagrangian velocity correlation should be determined for the investigation of the turbulent flow. There were three correlations for Lagrangian velocity correlation coefficients. By the application of radiotracer for the turbulent flow, the new Lagrangian correlation velocity coefficient can suggest sensitively and it can supply the all correlation conditions.

**Keywords:** *Flow Parameters , Lagrangian correlation velocity coefficients ,Radiotracer, Radioisotopes,*

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