

Estimation of Longitudinal Dispersion Coefficient Using Tracer Data

Authors : K. Ebrahimi, Sh. Shahid, M. Mohammadi Ghalehi, M. H. Omid

Abstract : The longitudinal dispersion coefficient is a crucial parameter for 1-D water quality analysis of riverine flows. So far, different types of empirical equations for estimation of the coefficient have been developed, based on various case studies. The main objective of this paper is to develop an empirical equation for estimation of the coefficient for a riverine flow. For this purpose, a set of tracer experiments was conducted, involving salt tracer, at three sections located in downstream of a lengthy canal. Tracer data were measured in three mixing lengths along the canal including; 45, 75 and 100m. According to the results, the obtained coefficients from new developed empirical equation gave an encouraging level of agreement with the theoretical values.

Keywords : coefficients, dispersion, river, tracer, water quality

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