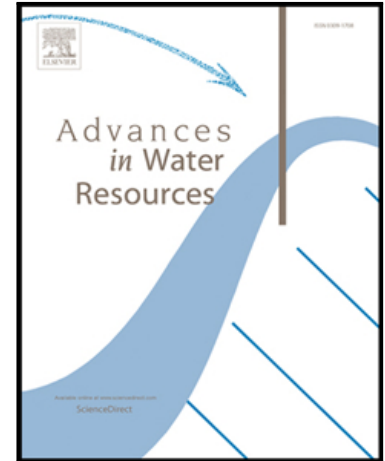


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Teaching and communicating dispersion in Hydrogeology, with emphasis on on the applicability of the Fickian model

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1 **Highlights**

- 2 • The process of dispersion is defined in an Eulerian framework
3 and for a specific volume. It is the result of covariation of velocity and
4 concentration fluctuations inside the volume.
- 5 • Equilibrium conditions are established for gradual changes in space and
6 slow changes in time.
- 7 • Under equilibrium conditions, dispersion flux is approximately Fickian,
8 i.e., proportional to the macroscopic (larger than the volume) concentra-
9 tion gradient.
- 10 • The Scheidegger parameterizations is not always accurate.

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