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Effect of static porosity fluctuations on reactive transport in a porous medium

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***Highlights (for review)**

- I treat porosity fluctuations on the transport of a component in a reactive medium.
- The porosity statistics is assumed to be Gaussian.
- The equation for the average concentration is modified by the porosity statistics.
- The diffusion coefficient is renormalized by the noise and by the reaction rate.
- Supplementary non-linear terms that depend on the concentration gradient appear.

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