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Characterisation of flux sensitivity to uncertainty in porous media A.J. EVANS, BP Institute, University of Cambridge, C.P. CAULFIELD, BP Institute & DAMTP, University of Cambridge, ANDREW W. WOODS, BP Institute, University of Cambridge — Natural porous media are typically heterogeneous on a range of length scales, and this leads to the challenge of defining effective medium properties with which estimates of fluid flow may be calculated. We develop a method to explore how the possible variability in the effective properties may impact estimates of the flow of a single phase fluid through a porous media. We use this method to explore how flow predictions are sensitive to uncertainty in the permeability field, and we develop the approach to explore how data may be used to reduce such uncertainty.

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