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# Information-theoretic approach to conductivity upscaling

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Model improvement by conditioning on data collected at multiple scales remains a challenge in complex settings. We employ an information-theoretic approach that allows for seamless integration of multi-resolution data into multi-scale simulations to upscale conductivity of heterogeneous formations. Fine-scale information is summarized into a coarse scale representation by setting a probabilistic equivalence between the fine and the coarse scale, with parameters that are determined via minimization of observables error and mutual information across scales.

## References

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