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## Multiscale mortar methods for flow in heterogeneous porous media\*

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### Abstract

We consider a second order elliptic problem with a heterogeneous coefficient written in mixed form. We view the domain decomposition method as a multiscale method with restricted degrees of freedom on the interfaces. We devise an effective but purely local multiscale method that incorporates information from homogenization theory. We also use this decomposition method approach to devise effective preconditioners that incorporate exact coarse-scale information to iteratively solve the full fine-scale problem.

### References

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