

## Sparse approximation of solutions to parametric diffusion problems

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**Abstract:** Sparsity of solutions to parametric diffusion problems is analyzed with general non-isotropic, non-affine parametric input. Locally supported representation systems are admitted for the parametric input. Best  $N$ -term approximation rates are implied that generalize those in the usual case of affine-parametric inputs. Also non-local operators such as parametric fractional diffusion operators are admissible. This work is supported in part by the Swiss National Science Foundation (SNSF) under grant SNF 159940.

## References

- [1] L. Herrmann, Ch. Schwab, and J. Zech. *Uncertainty quantification for spectral fractional diffusion: Sparsity analysis of parametric solutions*, (in review).
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