Robust data assimilation using mixed-norm optimization SOUVIK
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mental data are often contaminated with outliers which in turn influence the quality
of recovery in data assimilation techniques. We develop and present a computational
framework based on mixed-norm optimization to determine flow fields from exper-
imental measurements via a data-assimilation technique. More specifically, we use
a variational adjoint-based methodology to balance a recovery error with a sparsity
constraint, resulting in a saddle-point problem. The method shows promise in situ-
ations where only sparse measurements are available. Applications from mean-flow
recovery at lower Reynolds numbers, as well as Reynolds-stress recovery at higher
Reynolds numbers, will be presented.

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