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Higher Order Data Completion for Undersampled Raster Scans in Spectromicroscopy

Monday, 20 January 2025 16:00 (2 hours)

In this poster we present a novel iterative algorithm for low rank tensor completion, tailored to the recovering the missing entries in undersampled X-ray spectromicroscopy data, which are used to study material distributions. Compared to established techniques that rely on data matricizations and low-rank matrix completion, the new method allows the selection of robust sampling patterns, tensor multi-rank and undersampling ratio, while minimising the impact of undersampling on the data analysis. Results obtained on real data will be illustrated.

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