



BLIND SEPARATION OF TISSUES IN MULTI-MODAL MRI USING SPARSE COMPONENT ANALYSIS (TueAmPO3)

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★ Abstract :

We pose the problem of tissue classification in MRI as a Blind Source Separation (BSS) problem and solve it by means of Sparse Component Analysis (SCA). Assuming that most MR images can be sparsely represented, we consider their optimal sparse representation. Sparse components define a physically-meaningful feature space for classification. We demonstrate our approach on simulated and real multi-contrast MRI data. The proposed framework is general in that it is applicable to other modalities of medical imaging as well, whenever the linear mixing model is applicable.