

Accurate Estimation of ICA Weight Matrix by Implicit Constraint Imposition Using Lie Group

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• Models

- Hybrid optimizers in conjunction with a Lie group to maximize the independence criterion.

• Proposal

- Quasi-newton method as local optimizer.
- Spectral screening of the image data prior to the IC estimation to address the computational complexity .

• Experiments

- Estimate ICs on 6-D multispectral image data acquired at different ranges of wavelength

• Conclusions

- More accurate IC estimates in comparison with the fastICA
- the variations of the hybrid optimizers, preserve a reasonable estimation accuracy by periodically integrating the local optimizers with the global one.