



A multiway method to decompose a tensor (array) of any order, as a generalisation of SVD also supporting non-identity metrics and penalisations. 2-way SVD with these extensions is also available. The package includes also some other multiway methods: PCAn (Tucker-n) and PARAFAC/CANDECOMP with these extensions.

*See Leibovici (2010) for a step by step description with examples in the context of spatial data.*

*See also Leibovici et al. (2007) Leibovici and Jackson (2011) for other examples with spatial data; and examples with Multiway correspondence analysis in Leibovici and Birkin (2013)*

Leibovici, D.G. Quillevère, G. and Desconnets, J-C. (2007) " *A Method to Classify Ecoclimatic Arid and Semi-Arid Zones in Circum-Saharan Africa Using Monthly Dynamics of Multiple Indicators*". IEEE Transactions on Geoscience and Remote Sensing, 45(12), 4000-4007.

Leibovici, D.G. (2010) " *Spatio-temporal Multiway Decomposition using Principal Tensor Analysis on k-modes: the R package PTAK*." Journal of Statistical Software, 34(10), 1-34

Leibovici, D.G. and Jackson, M. (2011) " *Multi-scale Integration for Spatio-Temporal Ecoregioning Delineation*." International Journal of Image and Data Fusion, 2(2): 105-119

Leibovici, DG. Birkin, MH (2013) Simple, multiple and multiway correspondence analysis applied to spatial census-based population microsimulation studies using R. [NCRM Working Paper](#). NCRM-n°07/13, Id-3178