Principal Tensor Analysis on k modes PTA3 centred reduced on indicators --Percent Rebuilt---- 96.8061 O-no- -Sing Val -ssX -local Pct -Global Pct (a) 39.1571 (c) 853.956 22011905 3.3129 2.0375 0.3027 9186366 63.6214 16.3300 • 0.3309 0.0458 598166 0.2744 0.0047 3.5368 * 0.6131 0.2342 0.8377 0.2269 6322522 1.2848 0.0963 1.6431 * vs333 \$12 10 57.111 592759 0.5502 0.0091 livalent to a PCA of 298249 x 10 (63.66%)23.15% 6.95% 3.31% + Alt -0.4 -0.2 0.0 0.2 0.6 0.4 -0.6vs111 local 39.16 % 39.16 % global

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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 cnotext 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. Quillevere, 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.

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