

# A simple technique for regularization in redundancy analysis and kernel redundancy analysis

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**Abstract** We discuss a simple method for regularization in redundancy analysis (RA). Let  $X$  and  $Y$  represent matrices of predictor and criterion variables, respectively. The proposed method obtains the SVD (singular value decomposition) of  $P_X(\lambda)Y$ , where  $\lambda$  is a regularization parameter, and  $P_X(\lambda) = X(X'X + \lambda I)^{-1}X'$  which has some interesting properties. The basic results on linear RA are then extended to "kernel" redundancy analysis. Examples are offered describing applications of the proposed methods.