

Unfolding is not unsmearing (20+20)

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In particle physics unfolding methods are employed when the basis used to represent an estimate of the truth is not the basis with statistically independent expansion coefficients. For the discrete unfolding problem the latter is given by the eigenvectors of the Fisher information matrix, which measures the amount of information carried by the data about the truth. In typical cases it is ill-conditioned, with the consequence that the measurements constrain only a small number of the expansion coefficients. This allows for highly efficient data reduction, but only for a biased estimate of the truth. Unfolding methods differ in how they bias the result. A way to quantify this is the posterior response matrix.

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