

## COM-Poisson models with varying dispersion

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**Abstract:** *We propose an extension of the COM-Poisson model to model the mean and the dispersion jointly as functions of covariates, taking into account possible under- and over-dispersion in a single count dataset. Estimation and inference are based on the likelihood paradigm. We illustrate the methodology with the analysis of two datasets from designed experiments.*

**Keywords:** COM-Poisson; varying dispersion; double models.

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