

Title: **Robust Quasi-Likelihoods for Model Selection in Longitudinal Data Analysis or Otherwise Clustered Data**

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Abstract:

In this paper we introduce an extension of robust techniques for inference in generalized linear models to the analysis of longitudinal data. Robust versions of quasi-likelihood functions are obtained by applying robustness weights to their classical counterpart, and are used to construct a class of test statistics for model selection. The asymptotic theory of this class of test statistics is studied, and its robustness properties are assessed. The proposed class of test statistics yields reliable inference even in presence of deviating data points. The application to a real dataset confirms the benefit of such a robust analysis.