



The University of Chicago
Department of Statistics
Ph.D. Seminar

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Generalized Parametric Models and Rank Likelihood

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110 Eckhart Hall, 5734 S. University Avenue**

ABSTRACT

Generalized parametric models (GPMs) allow flexible and robust modeling of dependent processes by a simple extension of classical models that are well known to the practitioner.

GPMs are obtained from classical models such as the autoregressive model by the action of a group of transformations on the state space, which provides a decomposition of the process into the marginal distributions on the one hand and the time dependence on the other hand.

On grounds of invariance, inference on the dependence structure should be based on the rank statistic, which leads naturally to the consideration of rank likelihood. We will discuss the theory of rank likelihood in the Markov case. In particular, it is shown that the rank likelihood is semiparametrically efficient and locally asymptotically normal. These results suggest using the one step estimator of Le Cam.