# BAYESIAN PRIORS BASED ON A PARAMETER TRANSFORMATION USING THE DISTRIBUTION FUNCTION

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**Abstract.** One of the tasks of the Bayesian consulting statistician is to elicit prior information from his client who may be unfamiliar with parametric statistical models. In some cases it may be more illuminating to base a prior distribution for parameter $\theta$ on the transformed version $F(v|\theta)$, where $F$ is the data distribution function and $v$ is a designated reference value, rather than on $\theta$ directly. This approach is outlined and explored in various directions to assess its implications. Some applications are given, including general linear regression and transformed linear models.

*Key words and phrases*: Bayesian priors, priors for location-scale regression models, priors for transformed linear models, proper priors.