The regression-calibration method for fitting generalized linear models with additive measurement error

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Abstract. This paper discusses and illustrates the method of regression calibration. This is a straightforward technique for fitting models with additive measurement error. We present this discussion in terms of generalized linear models (GLMs) following the notation defined in Hardin and Carroll (2003). Discussion will include specified measurement error, measurement error estimated by replicate error-prone proxies, and measurement error estimated by instrumental variables. The discussion focuses on software developed as part of a small business innovation research (SBIR) grant from the National Institutes of Health (NIH).

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