# SEQUENTIAL ESTIMATION IN REGRESSION MODELS USING ANALOGUES OF TRIMMED MEANS*

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**Abstract.** A sequential procedure is proposed for constructing a fixed-size confidence region for the parameters of a linear regression model. The procedure is based on certain regression analogues of trimmed means, as formulated by Welsh (1987, *Ann. Statist.*, **15**, 20–36), rather than least squares estimates. For error distributions with continuous, symmetric density and some moment higher than fourth finite, if the design points of the model are bounded, then the procedure is both asymptotically consistent and asymptotically efficient as the size of the region approaches zero.

*Key words and phrases*: Fixed-size confidence region, asymptotic efficiency, asymptotic consistency, residual, order statistics.