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Jungwon (Chris) Mun* (stat.chris@gmail.com), Department of Mathematics and Statistics, 3801 W. Temple Avenue, Pomona, CA 91768. *A Method to Detect Discordant Subjects in Linear Mixed-Effect Models.*

Many papers have proposed methods for detecting discordant subjects and observations for repeated measurements, which is often fitted by linear mixed-effect models. Most of these suggestions are deletion approaches and adapt existing methods, most likely Cook's distance, for regression data to repeated measurements. However, these straightforward modifications miss the unique and important features of repeated measurements and this causes inherent drawbacks in them per se. This article presents the limitations of simply modified Cooks distances with examples and suggests a new non-deletion method that detects discordant subjects and observations effectively and properly. The proposed method provides greater information on repeated measurements by utilizing (revised) residuals and cooperates well with linear mixed-effect models. In addition, this paper illustrates both the subject-wise and the observation-wise investigation with the new method. (Received September 16, 2009)