Review of: "Deming Regression: Least-Squares Analysis with Errors in Both X and Y Data, and a Simple Spreadsheet Implementation"

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Potential competing interests: No potential competing interests to declare.

The Deming orthogonal regression method is flawed because the ratio of variances weighting only partially adjusts for measurement error, as shown in Fig 3 of (Luck, S. (2022). PLOS ONE, 17(1), e0262148. https://doi.org/10.1371/journal.pone.0262148). Furthermore, I obtain a general solution for the linear measurement error regression (LMER) problem in that paper. The linear relation is parameterized by the weighted average for the minimum coefficient of variation for error (CVE) for the variable vectors (VVs). Monte Carlo simulations for parametric linear regression (PLR) demonstrate that the parameter estimates are unbiased. The PLR framework allows the partitioning of measurement errors in fitting straight lines in 2 or more dimensions; ordinary linear regression is a special case of PLR. Alternatively, the ODRPACK algorithm (https://dl.acm.org/doi/10.1145/76909.76913) for orthogonal distance regression produces unbiased parameter estimates for two-dimensional LMER. The Python implementation of ODRPACK is available in the open-source SciPy software (https://docs.scipy.org/doc/scipy/reference/odr.html).