

Title: Modeling the random effects covariance matrix for longitudinal data with covariates measurement error

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Software: R software, version: r/3.3.1

The code "ProposedMethod\_AR2model.R" contains the source R code that will provide the simulation outputs of Table 4 for Model 1 (Section 5.1). This code will give the results of the model parameters estimate and standard errors for one simulation.

The R file called ParScript\_Model1-AR2.R is used to generate 200 simulations/programs for the simulation study. We do this way to save the time as each simulation may take sometimes to finish it. Basically, we divide our 200 simulations to 200 different jobs (appropriately) and submit the 200 files (jobs) separately to speed up the process using High Computing Facility.

Note that the jobs/files and results are saved in the required directory of High Computing Facility. The text file called "ProposedMethod\_AR2model.txt" is used to specify the R files for the cluster/High Computing Facility.

We then use the file called "Combine\_SIM\_Model1-AR2Model.R" to extract the results as shown in Table 4 for Model 1.