This folder contains the R programs of the simulations from Section 4.3.

There are five R programs to run the simulations and obtain the *in-control* average run lengths (ARLs) of the SCARM and the trend-detection procedure, one for each of the five error types considered in the article:

* ARL\_in\_control\_normal\_errors.R
* ARL\_in\_control\_weibull\_errors.R
* ARL\_in\_control\_t\_errors.R
* ARL\_in\_control\_contamination\_I\_errors.R
* ARL\_in\_control\_contamination\_II\_errors.R

These R functions require the function “scarm.detection.for.in.control.R”, which is also given in this folder, and the R package “robfilter”, version 4.0. Note that it may take several days to conduct the simulations, depending on your system and the chosen number of repeats.

Furthermore, there is one R program to run the simulations and obtain the *out-of-control* average run lengths of the SCARM and the trend-detection procedure:

* ARL\_out\_control.R

This R function requires the function “scarm.detection.for.out.control.R”, which is also given in this folder, and the R package “robfilter”, version 4.0.