1 Evaluation

In order to measure the accuracy of the emulator, the root-mean-square-deviation(RMSD) is used to measure the differences between the values used to train the ensemble and the value predicted. Results are shown next.
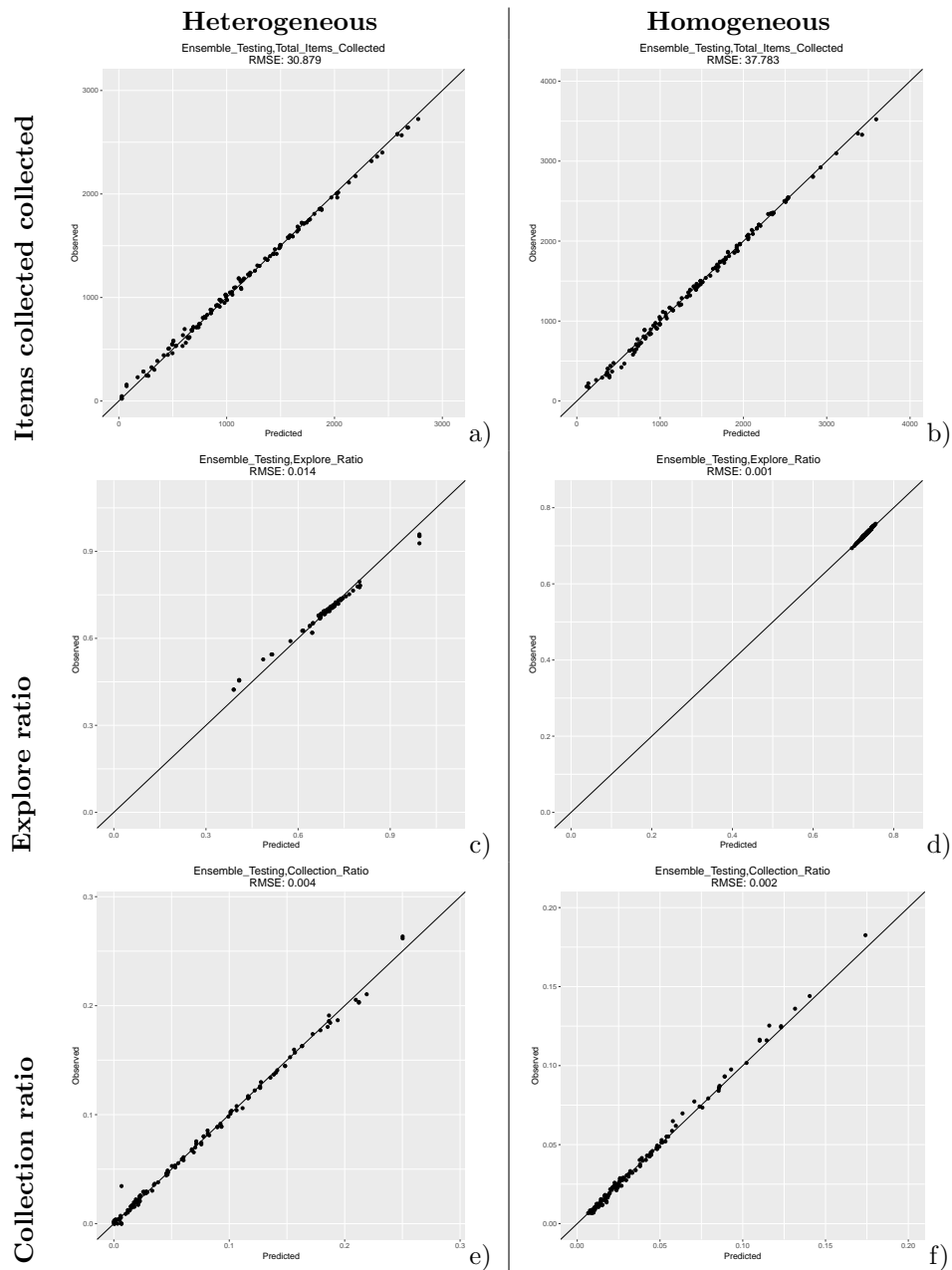

Figure 1: Testing sets for NPS for heterogeneous and homogeneous error (left and right column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).

2 Complementary figures

2.1 Latin-hypercube analysis technique

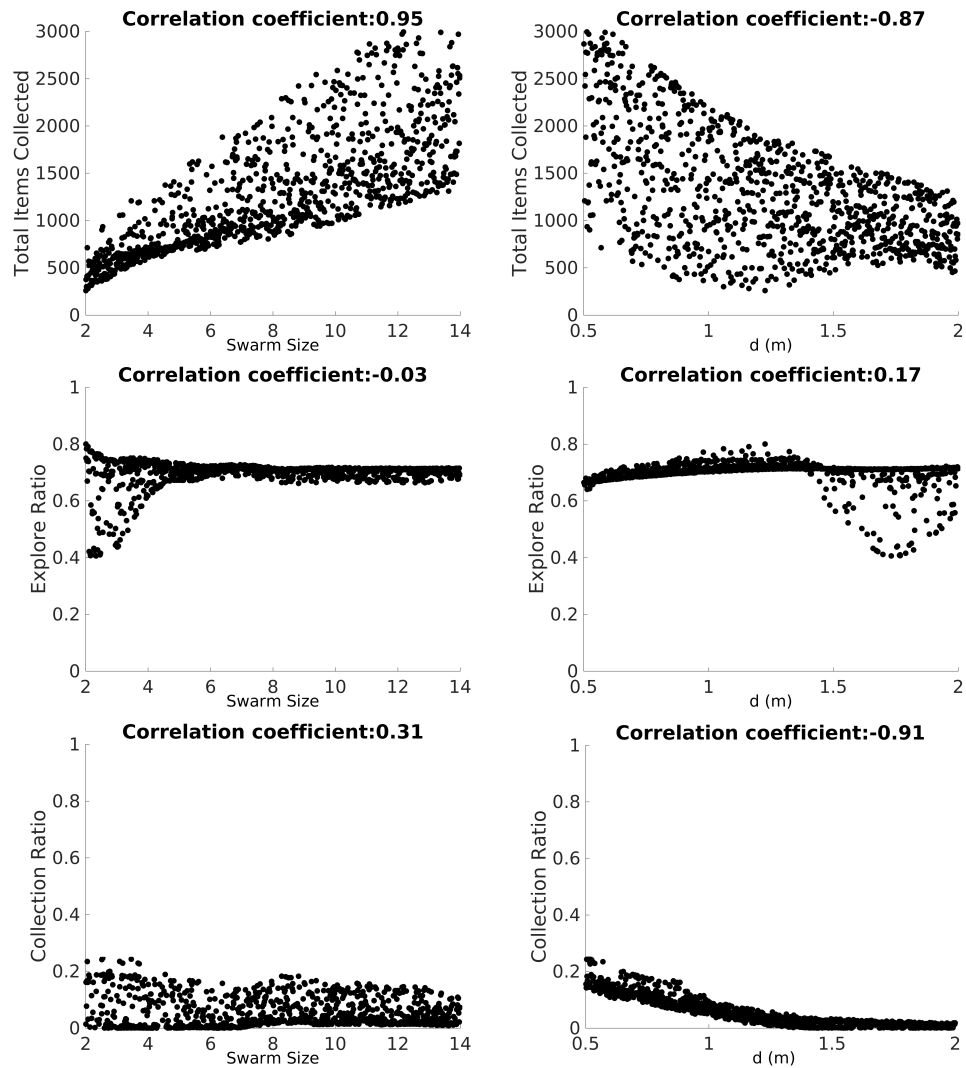Complementary results from the latin-hypercube analysis.

Figure 2: LHA for NPS for heterogeneous error. Parameters: swarm size and d (left and right column). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
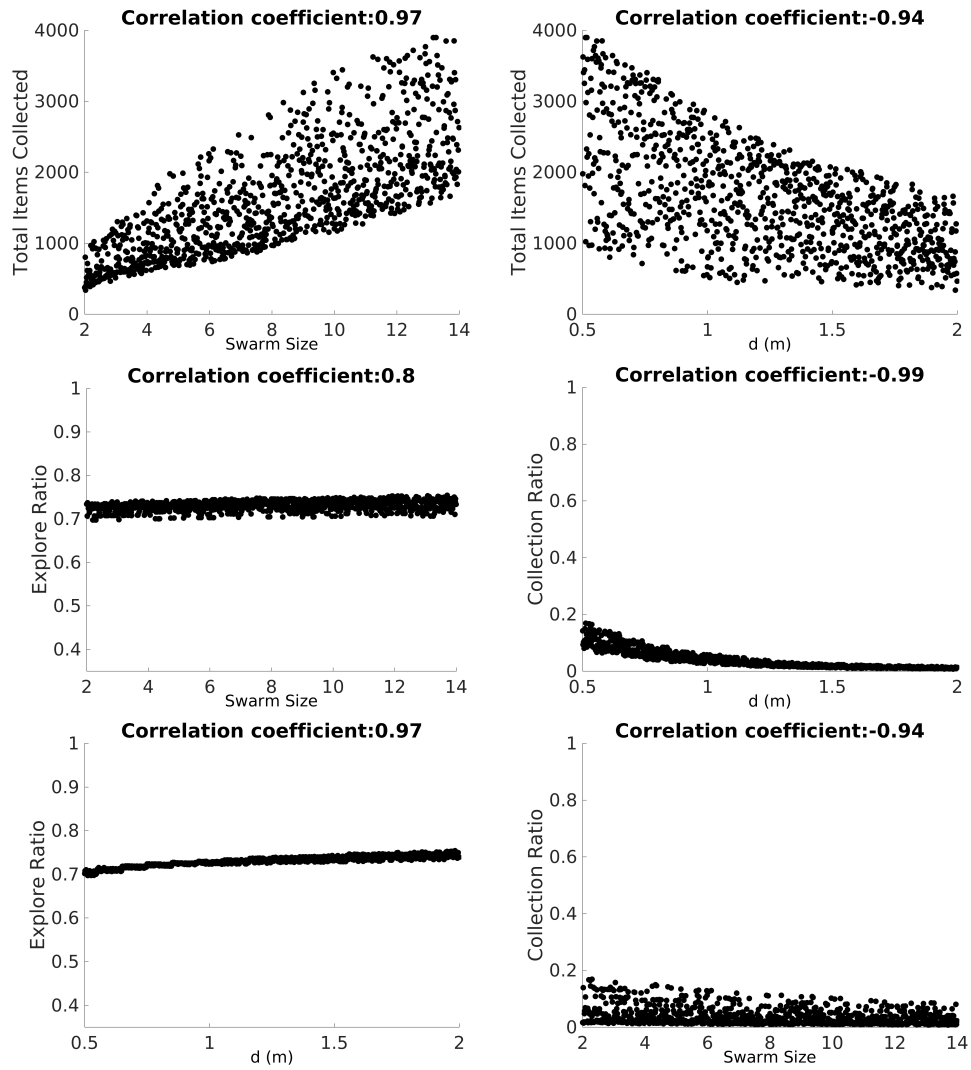
Figure 3: LHA for NPS for homogeneous error. Parameters: swarm size and d (left and right column). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
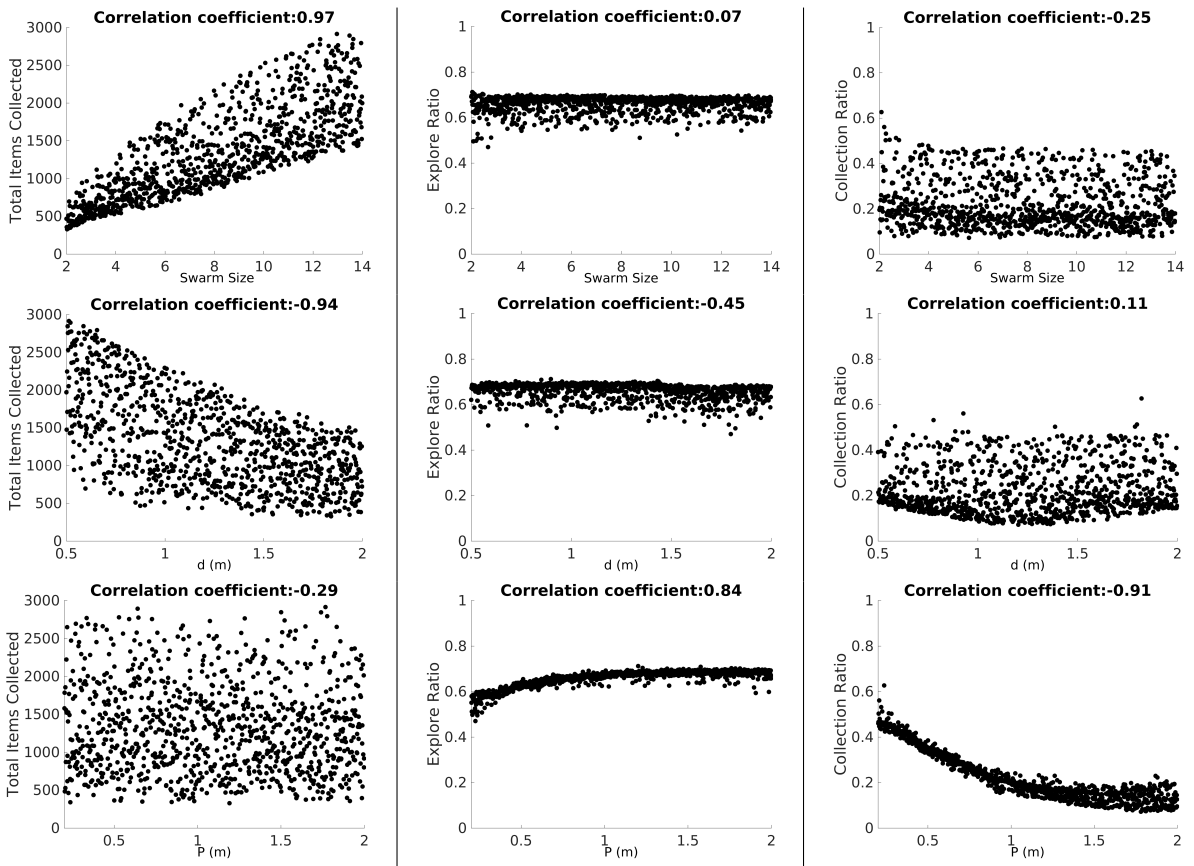
Figure 4: LHA for SPS for heterogeneous error. Parameters: swarm size, d and P (first, second and third row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).

Figure 5: LHA for SPS for homogeneous error. Parameters: swarm size, d and P (first, second and third row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).
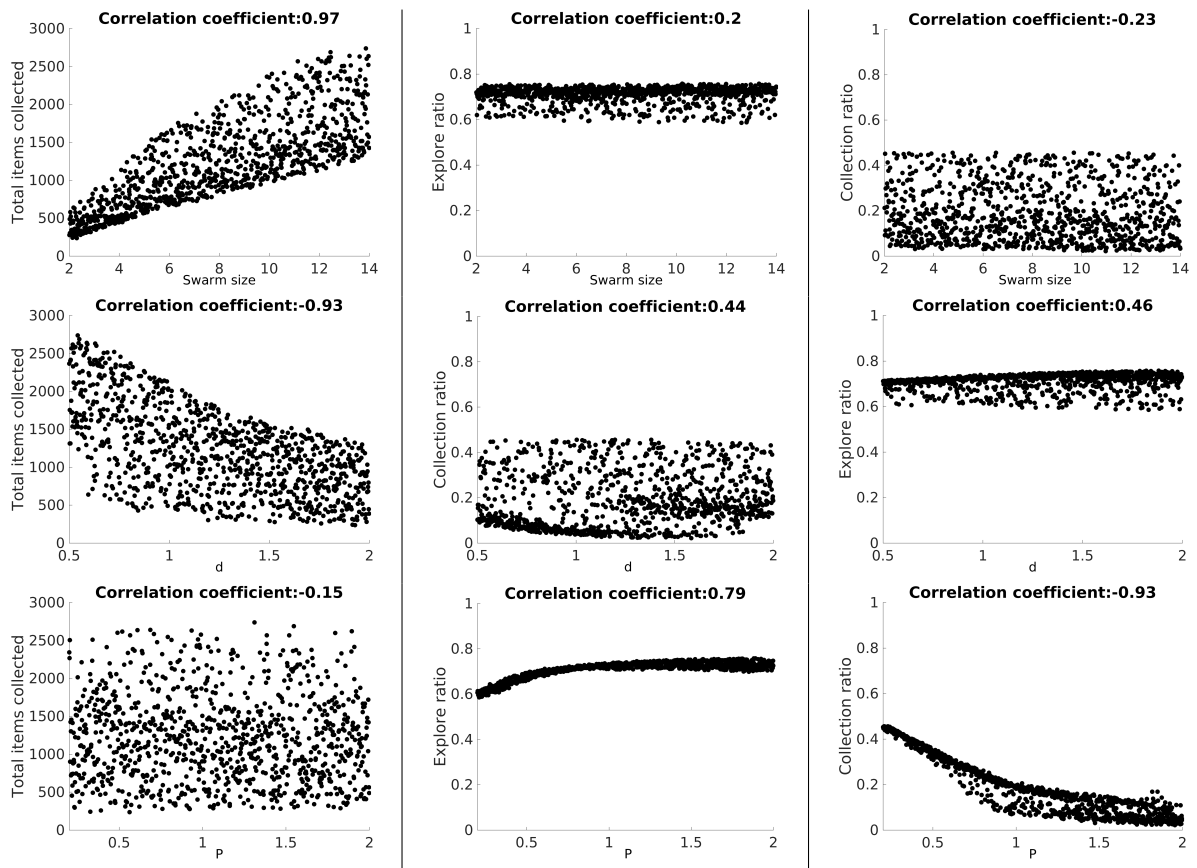
Figure 6: LHA for DPS for heterogeneous error. Parameters: swarm size, d and α (first, second and third row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).
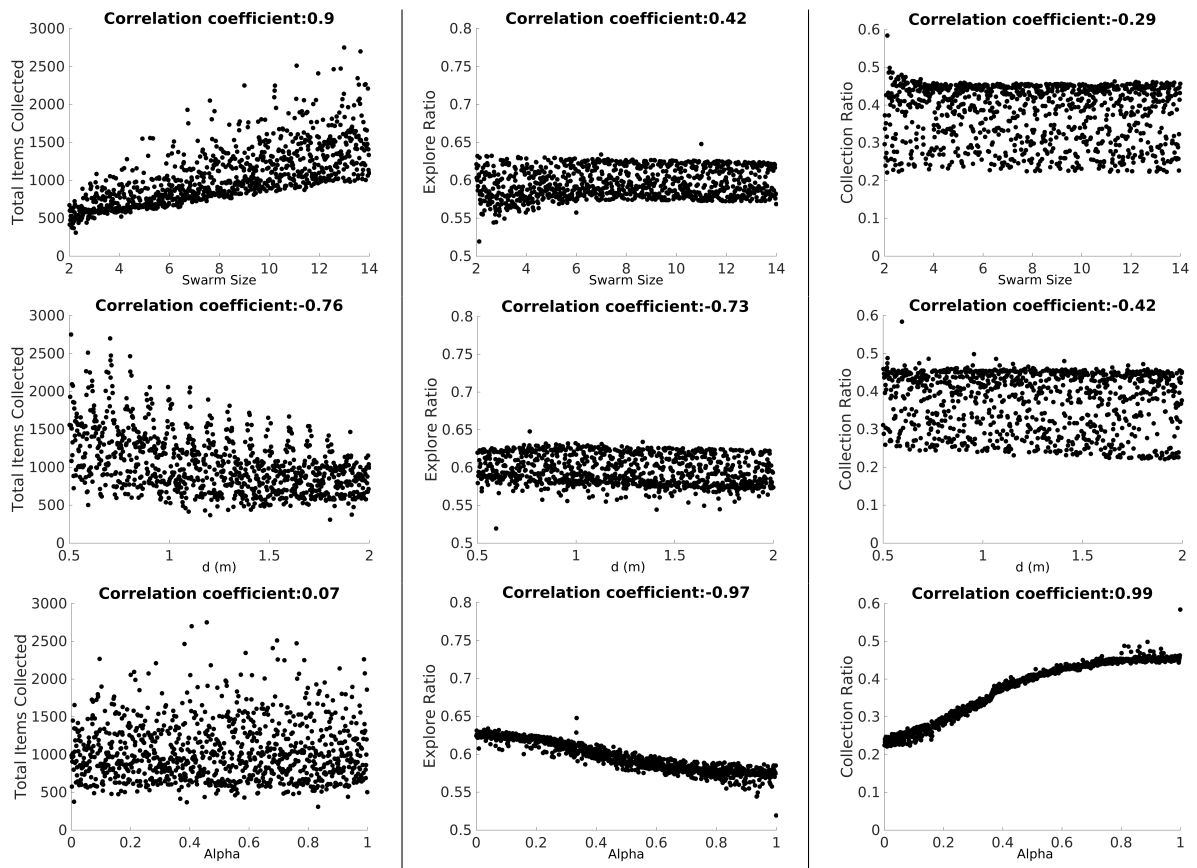
Figure 7: LHA for DPS for homogeneous error. Parameters: swarm size, d and α (first, second and third row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).
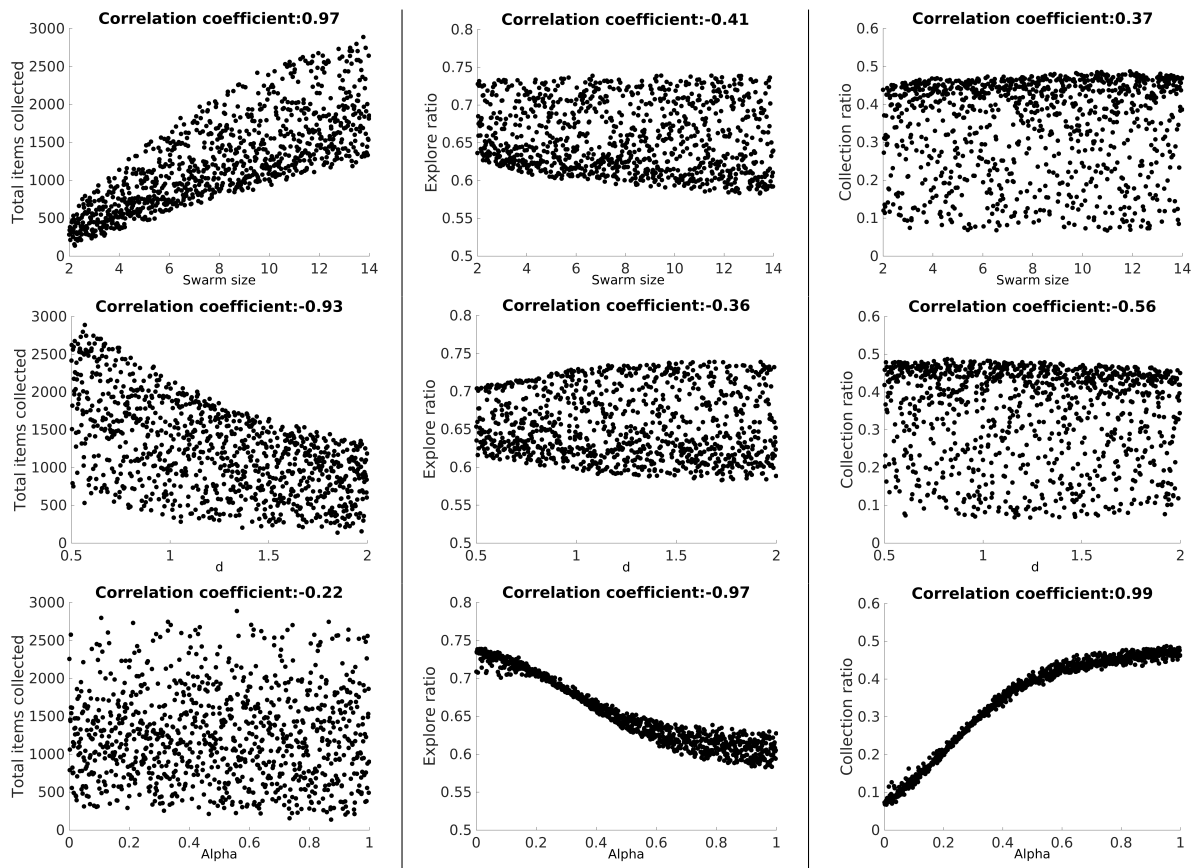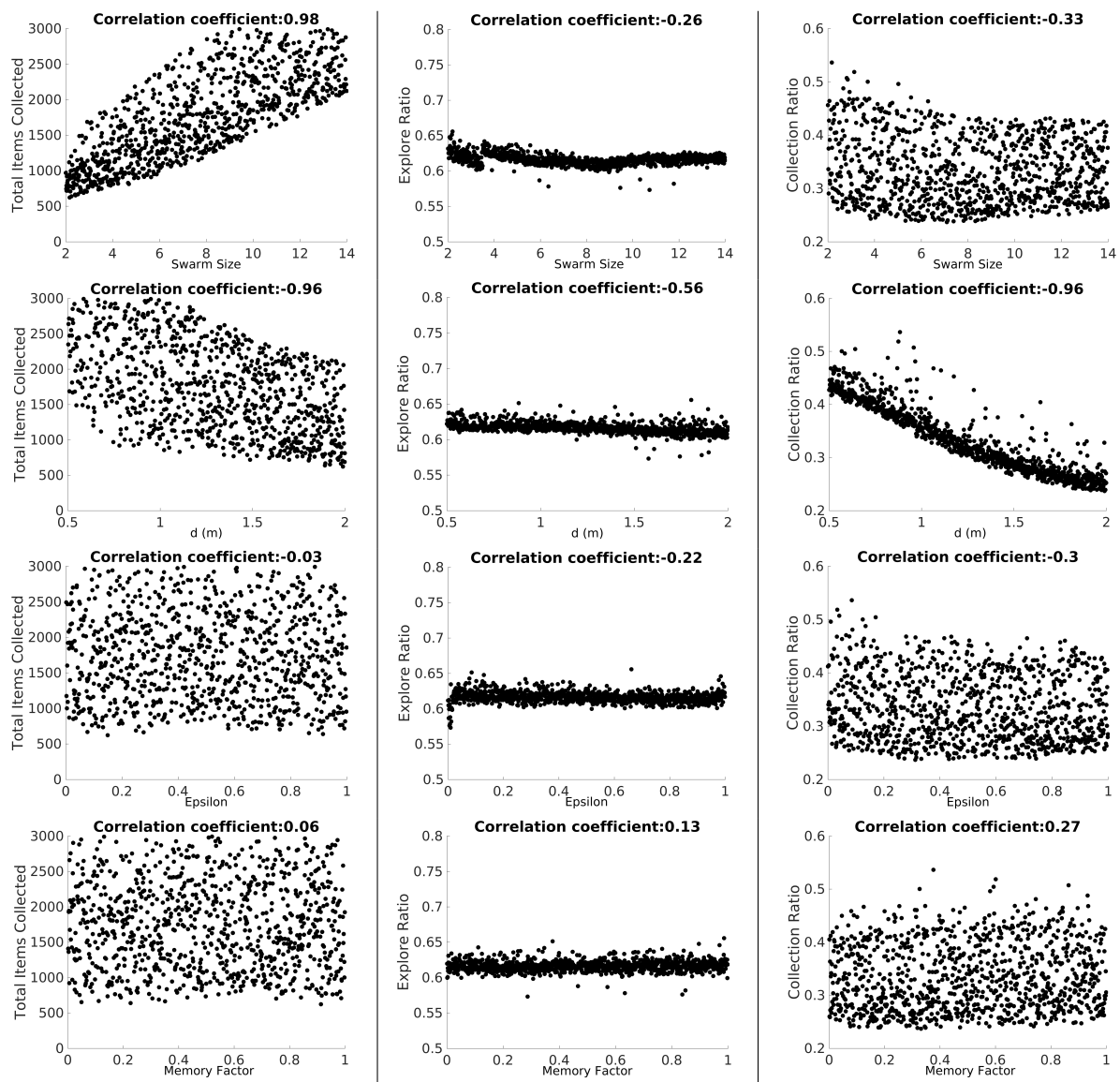
Figure 8: LHA for CPS for heterogeneous error. Parameters: swarm size, d and ϵ and memory factor (first, second, third and fourth row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).

Figure 9: LHA for CPS for homogeneous error. Parameters: swarm size, d and ϵ and memory factor (first, second, third and fourth row respectively). Outputs: total items collected, explore ratio and collection ratio (left, center and right column respectively).
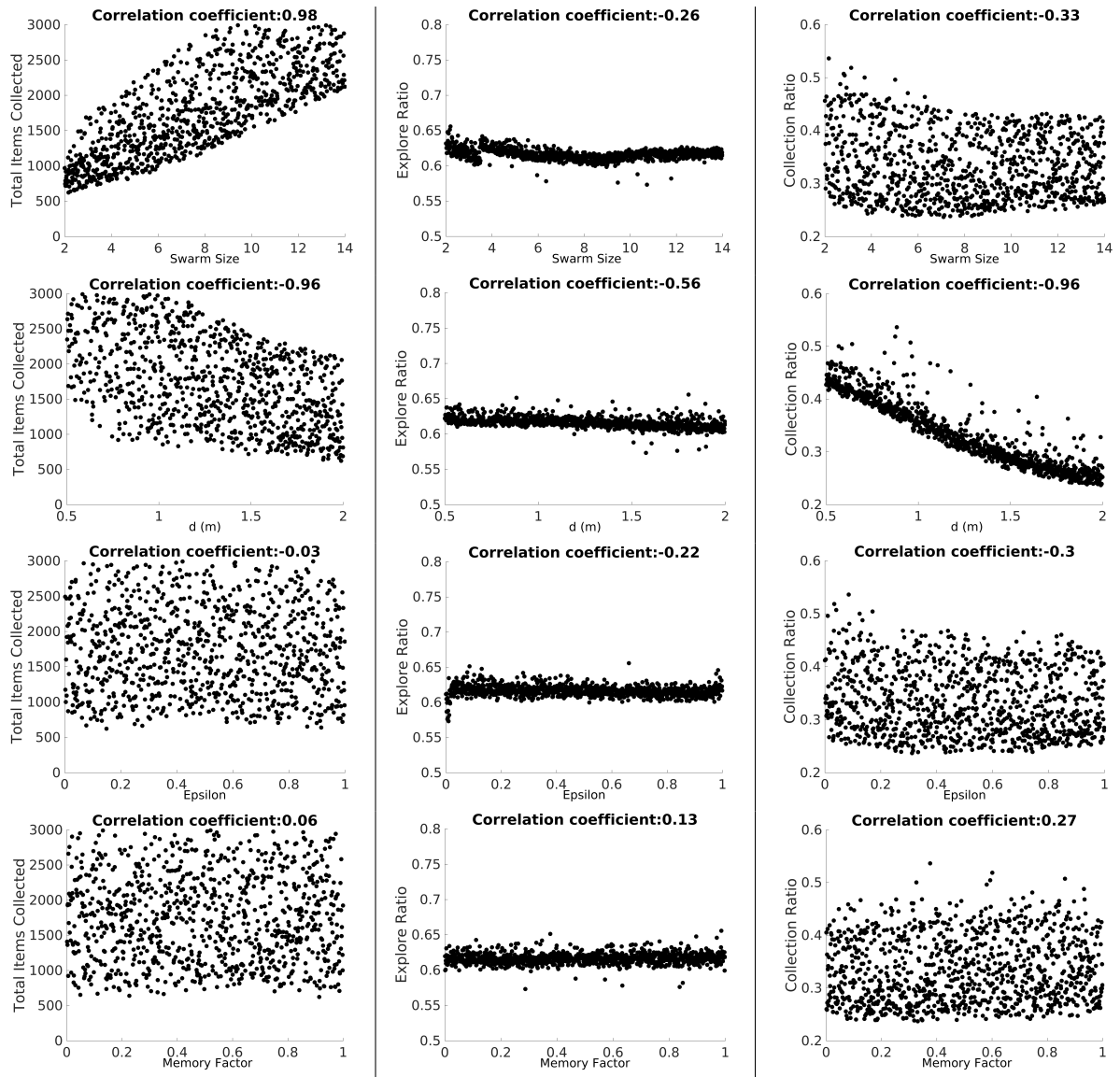
2.2 The easyABC technique

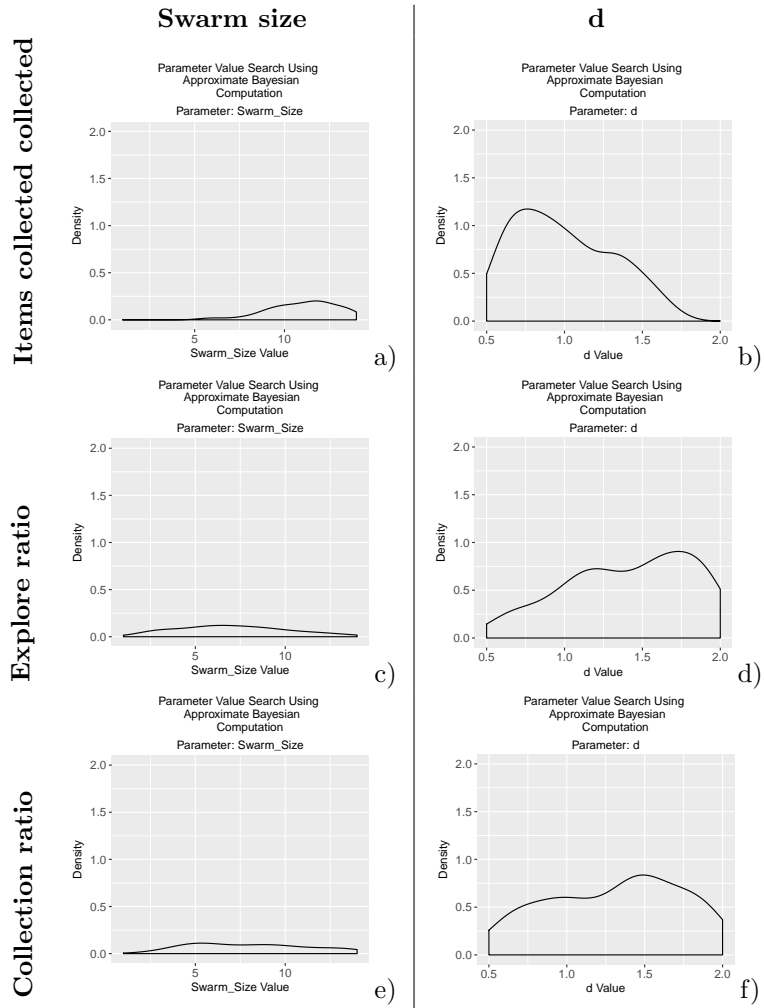Complementary results from the easyABC technique used for the experiments.

Figure 10: easyABC results for NPS with heterogeneous. Parameters: swarm size and d (first and second column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).

Figure 11: easyABC results for NPS with homogeneous error. Parameters: swarm size and d (first and second column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
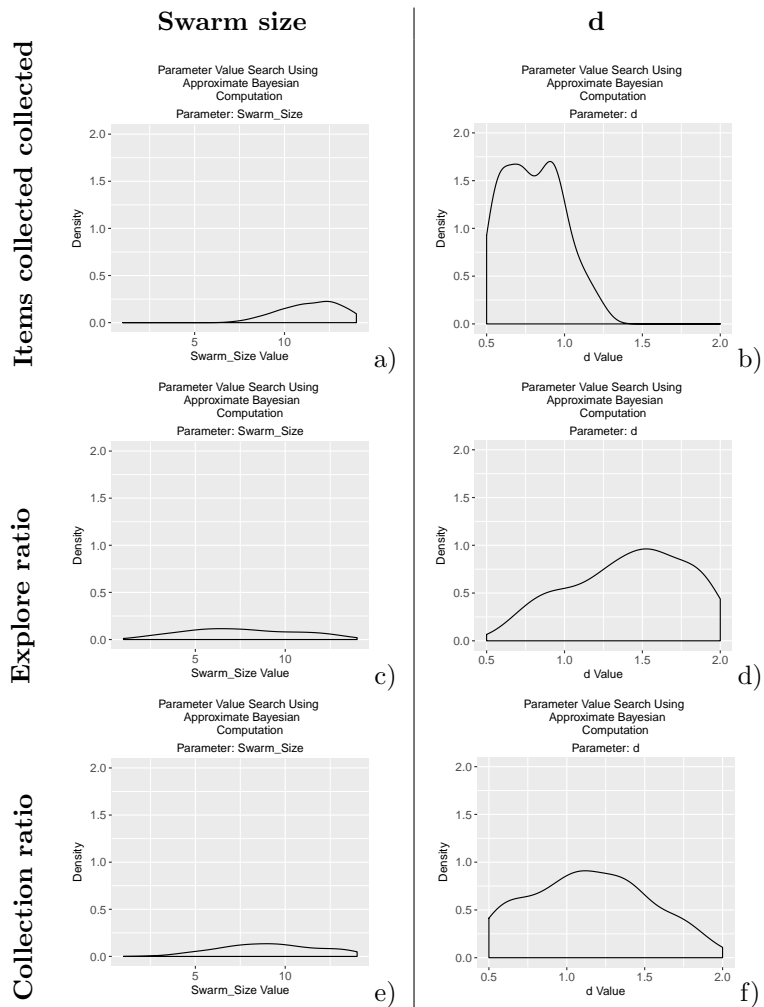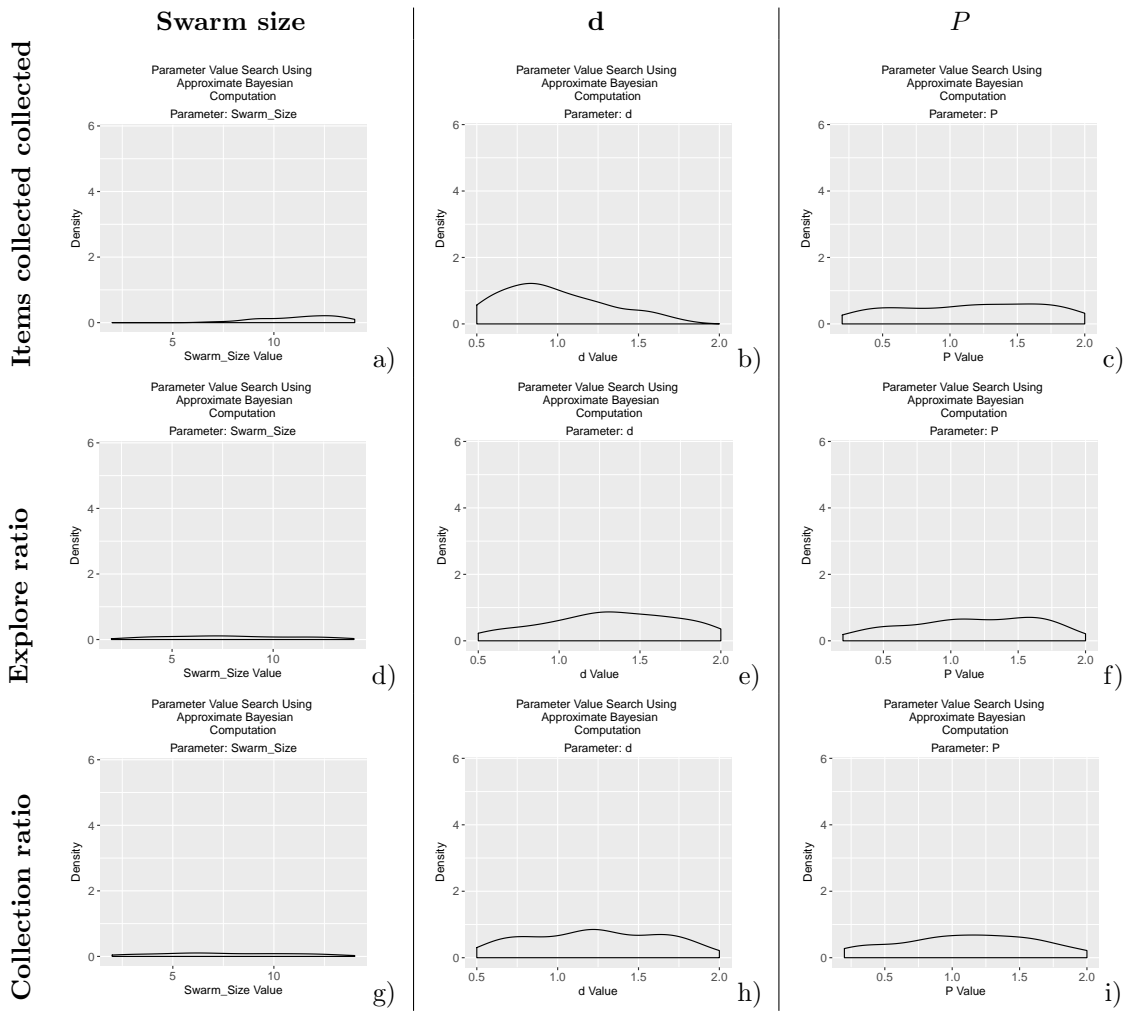
Figure 12: easyABC results for SPS with heterogeneous error. Parameters: swarm size, d and P (first, second and third column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).

Figure 13: easyABC results for SPS with homogeneous error. Parameters: swarm size, d and P (first, second and third column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
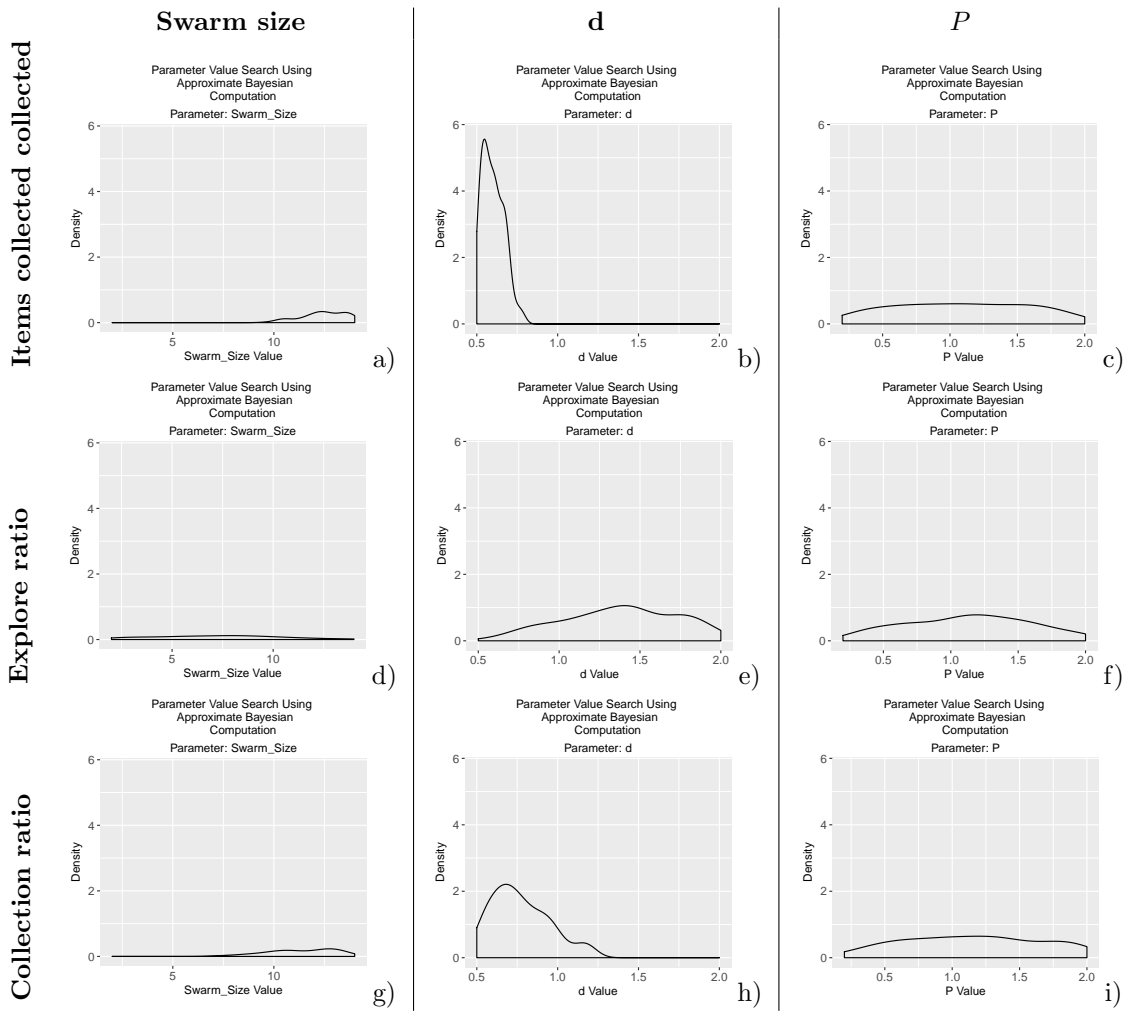
Figure 14: easyABC results for DPS with heterogeneous error. Parameters: swarm size, d and α (first, second and third column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
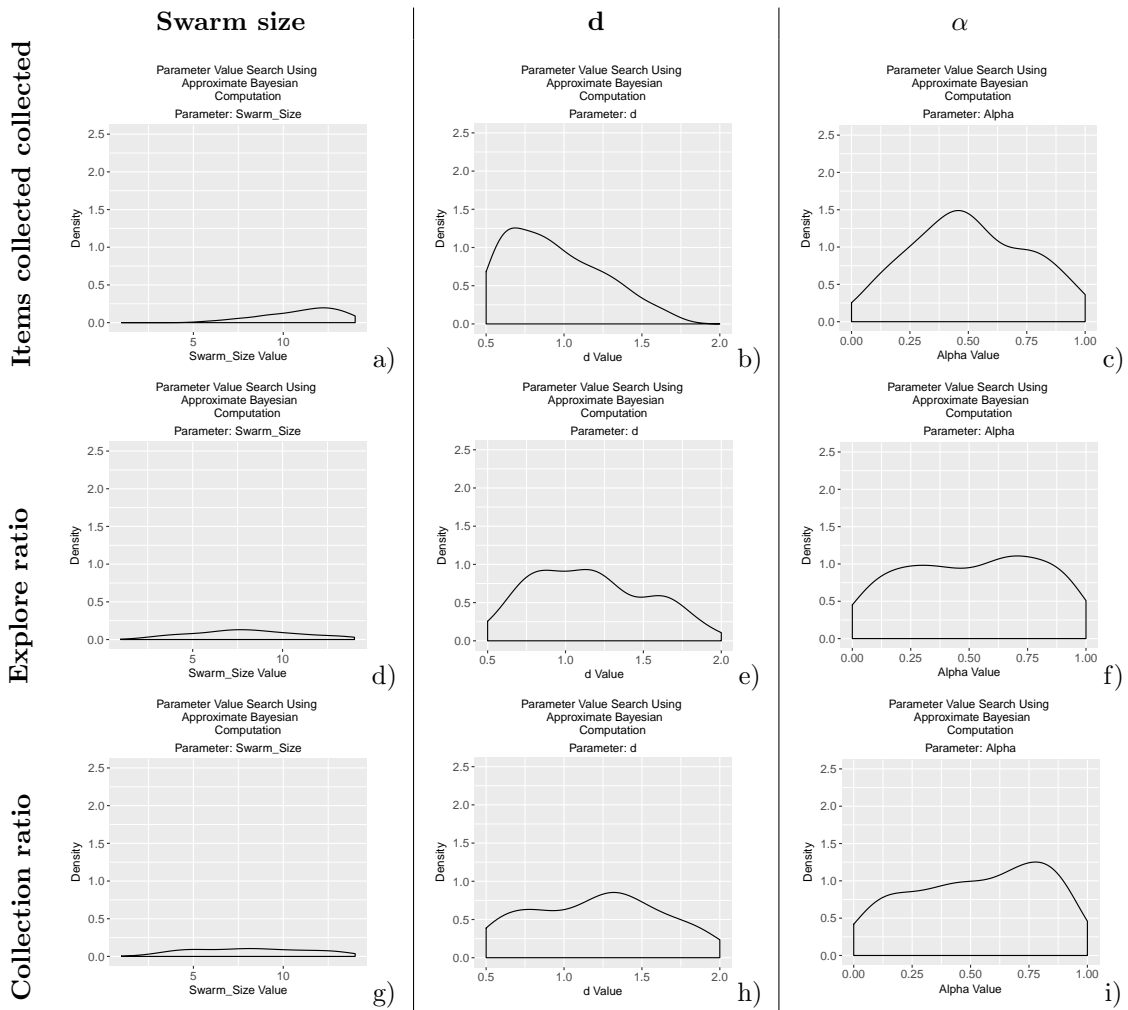
Figure 15: easyABC results for DPS with homogeneous error. Parameters: swarm size, d and α (first, second and third column respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third row respectively).
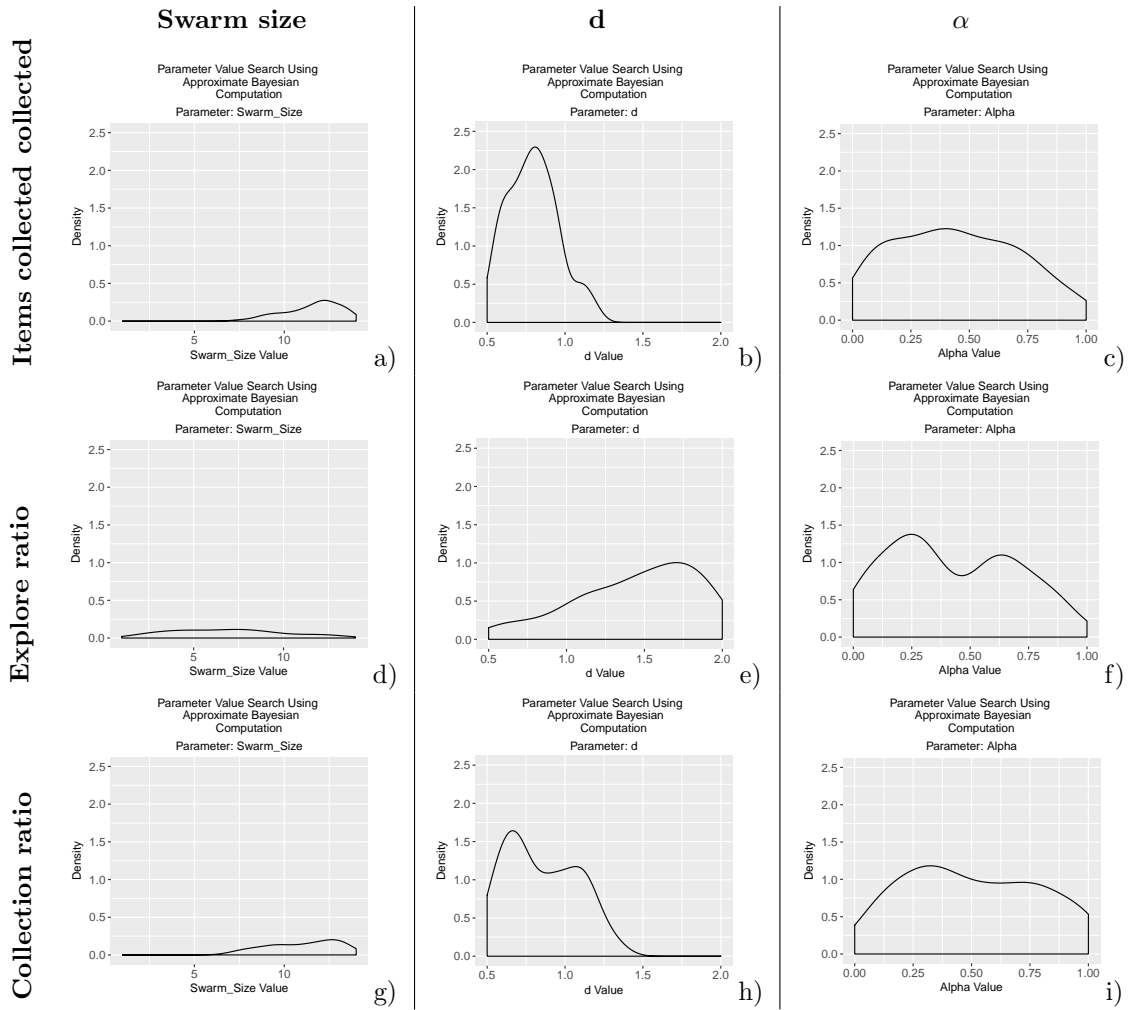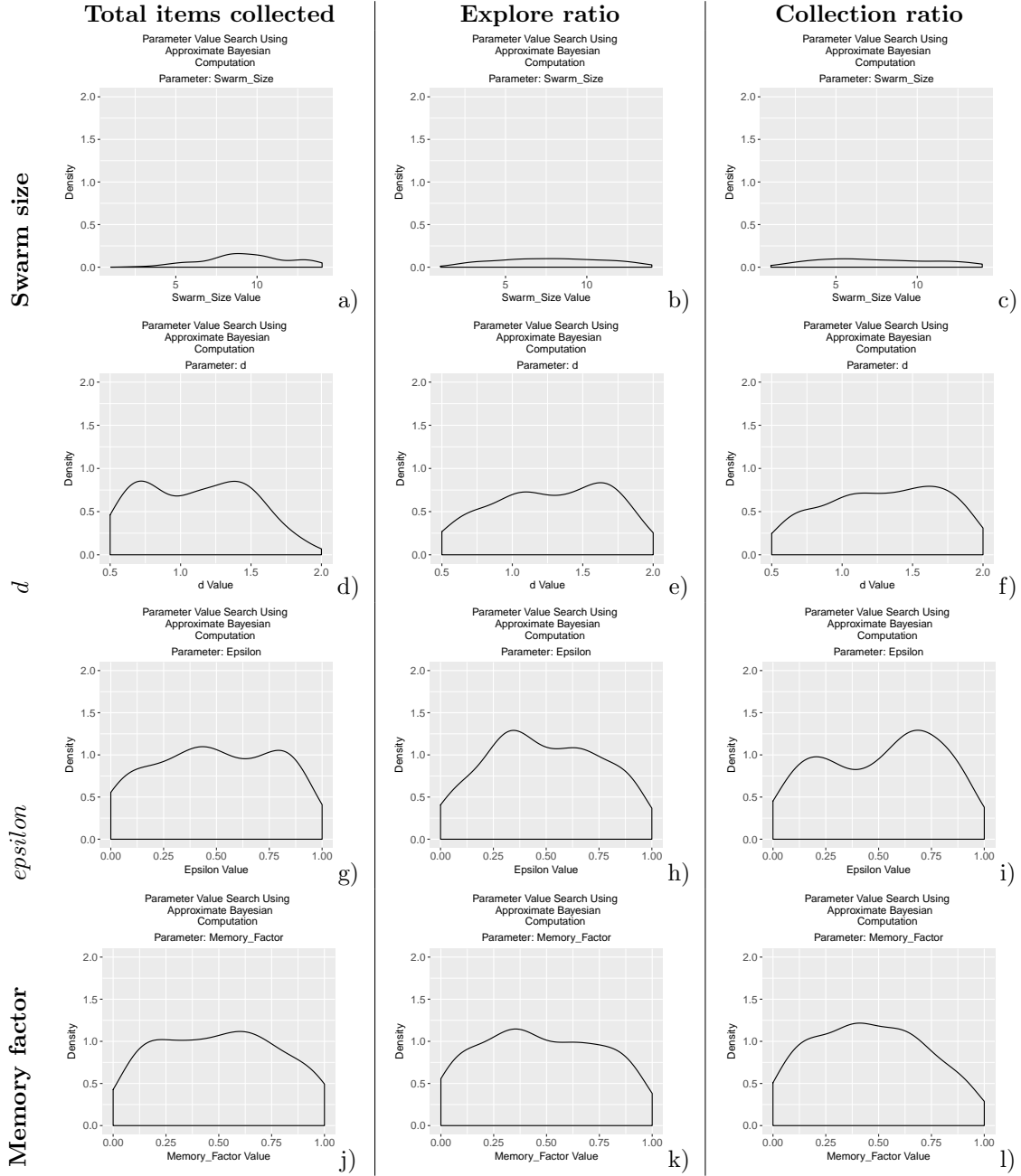
Figure 16: easyABC results for CPS with heterogeneous error. Parameters: swarm size, d, ϵ and memory factor (first, second, third and fourth row respectively). Outputs: total items collected, explore ratio and collection ratio (first, second and third column respectively).

Figure 17: easyABC results for CPS with homogeneous error. Parameters: swarm size, d, ϵ and memory factor (first, second, third and fourth row respectively). Outputs: total items collected, explore ratio and collection 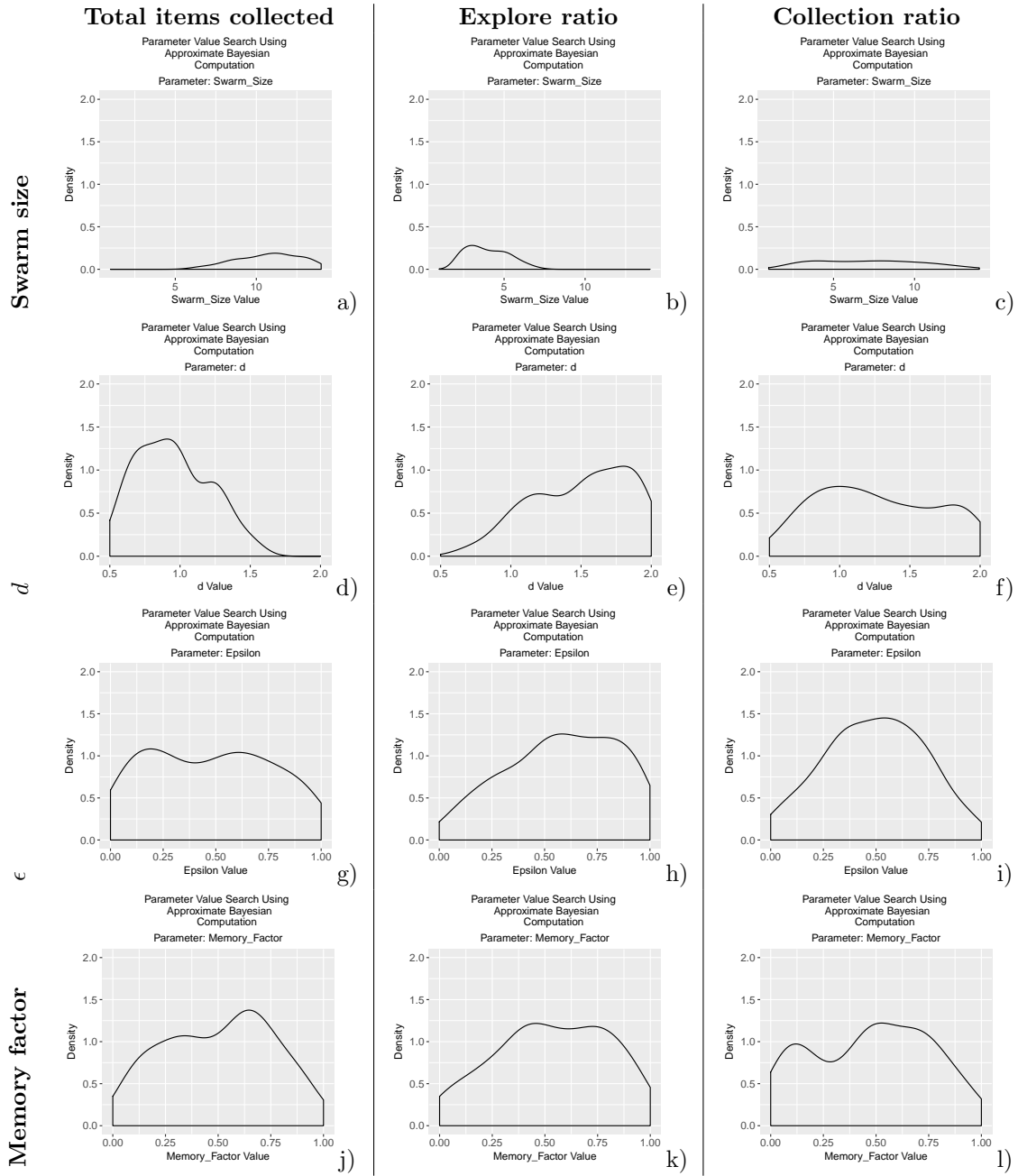ratio (first, second and third column respectively).