(a) Agent 1 local function      (b) Agent 2 local function      (c) Agent 3 local function

(d) Agent 4 local function

(e) Agent 5 local function

(f) Global function

(g) Cumulative regret

Figure 1: Comparison of Actual Function versus Posterior Mean Estimate with Sampling Points (T = 1000 iterations) using the MA-IGP-UCB Algorithm for 5 agents using a polynomial approximation (degree 10) of $\bar{\mu}_i$ and $\bar{\sigma}_i$. Subfigures (a)-(e) depict the local functions, while subfigure (f) presents the actual global function along with each agent's estimate of the global function, and (g) shows the cumulative regret.