Figure 1: The illustration of the experiment on the communication cost and cumulative regret under different threshold values. Each dot denotes the cumulative communication cost (x-axis) and cumulative regret (y-axis) that an algorithm (FCOM or Sync-LinUCB) with a specific threshold value (labeled next to the dot) has obtained at iteration T. The communication costs of the proposed method can be reduced by increasing the threshold. Our method exhibits lower and more stable cumulative regret compared to the benchmark model (Sync-LinUCB) across different communication costs, highlighting the robustness of representation learning.