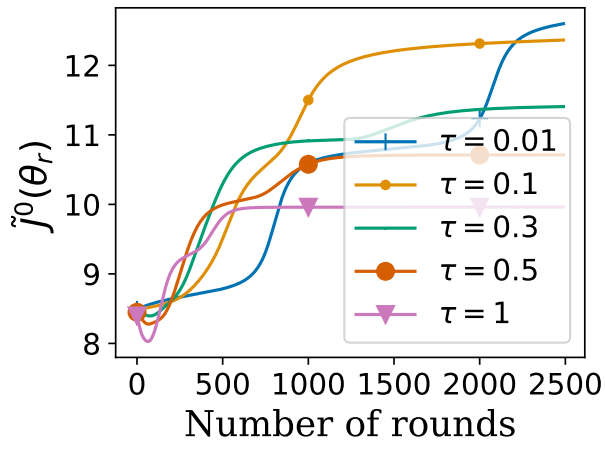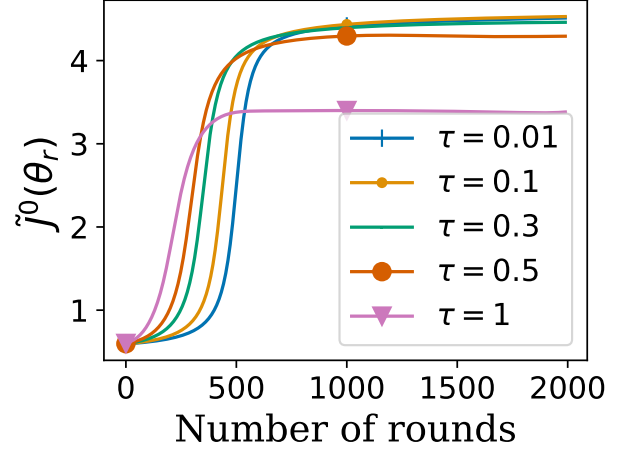## Impact of the regularisation

(a) Synthetic

(b) GridWorld

Figure 9: Plot of $\tilde{J}^0(\theta_r^\tau)$ (objective associated with $\tau = 0$) as a function of the the round for $\varepsilon_{\mathsf{P}} = 0.05$, $M = 5$ where θ_r^τ are the iterates obtained by using `FedPG` on $\tilde{J}^\tau(\theta_r^\tau)$.