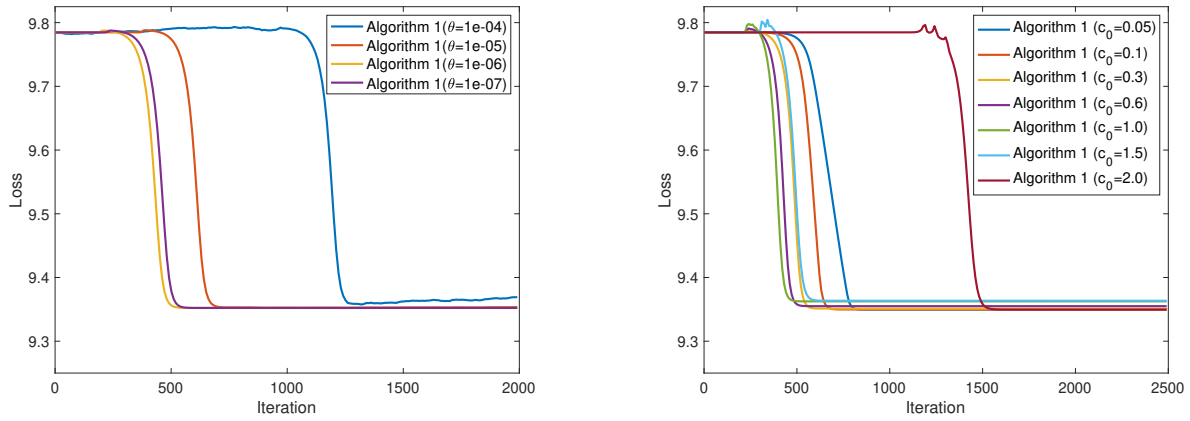


**(a)** **(b)**

**Fig. 2.** Sensitivity analysis in the logistic regression experiment. (a) Influence of noise amplitude $\theta$. Fig.2(a) reveals that although noise can help the algorithm escape saddle points, it also hinders convergence. Both a too small noise amplitude and a too large noise amplitude reduce the efficiency of saddle-point avoidance. (b) Influence of clipping threshold $c_0$. Fig.2(b) indicates that a larger threshold facilitates faster escape from saddle points by allowing a larger step of descent along the descent direction. However, the threshold cannot be too large, which will essentially diminish the instances of clipping and lead to reduced saddle-point escaping performance.