

In this work, we aim at solving the barrier-based safety problem for a potentially unknown stochastic dynamics through finite data collected from trajectories of the system ; and providing a lower bound on the safety of the system accompanied by an a priori confidence. To do so, in the first step/initially, we reformulate the barrier-based safety problem as a robust convex problem (RCP) and then we stick to the scenario-driven approach to tackle this problem. We take samples from the system and construct a scenario convex problem (SCP) ~~and then we~~before establishing a connection between the optimal solution of the obtained SCP and safety of the stochastic system. There are two sources of uncertainty, ~~;~~ one comes from data and another the other one is caused by the stochasticity in the system. We incorporate the effect of both of them in our provided confidence. ~~In~~continuessubsequently, the proposed approach is extended for a class of non-convex safety problems. Finally, we provide an algorithm in order to synthesize a safety-guided controller based on collected data. We conclude ~~bring the paper to the end~~ with two case studies to elucidate the effectiveness of our approach in practice.