Response to Reviewer 4

This manuscript proposes a dynamical system-based approach for solving robust optimization problems in a general convex-concave framework. This proposed approach offers a novel solution to robust optimization problems by introducing a continuous-time dynamical system. Additionally, the proposed dynamical system-based approach offers better properties compared to traditional approaches and demonstrates the potential to solve a broad range of robust optimization problems in a decentralized manner. Some detailed comments are given as follows.

Comment 1: *The improvements compared to the existing results are also unclear, which makes it difficult to evaluate the contribution of this article.*
Response: We clarified the technical novelty and key contributions in the Introduction. The improvements over existing results are now explicitly stated:

"We introduce a continuous-time dynamical system that provably converges to the optimal robust solution for a broad class of robust optimization (RO) problems... To the best of our knowledge, this work presents the first continuous-time dynamical system specifically designed for solving robust optimization problems that are convex in the decision variables and concave in the uncertainty. Despite this convex–concave structure, the problem is not jointly concave in (λ, u)... We establish the saddle-point property of the equilibrium even in the absence of joint concavity in (λ, u). The non-classical structure of the dynamics necessitates the construction of a novel Lyapunov function to analyze stability."

"A distinctive feature of our dynamical system is its amenability to model-free implementation when deployed in physical systems where agents can sense local gradients but do not possess global knowledge of objective or constraint functions... This model-free characteristic distinguishes our approach from robust counterpart methods that require complete a priori knowledge of problem structure."

Comment 2: *There are some language and grammar issues in this paper and the authors need to revise their paper properly.*
Response: We revised the manuscript throughout for clarity and grammar. Long sentences were split, technical terminology was standardized, and all instances of "the paper" were replaced with "this paper" for better readability.

Comment 3: *The definite article in the captions of all figures is suggested to be omitted. In general, the definite article in the title should be omitted.*
Response: All definite articles have been removed from figure captions:

"Trajectories of $\mathcal{RO}$ dynamics for robust QP problem with intersection of ellipsoids uncertainty set in Example A."

"Trajectory of $\mathcal{RO}$ dynamics for robust nonlinear optimization problem (45) in Example B."

Comment 4: *The italics of many formulas in this manuscript are not standard, and there are some inconsistent phenomena.*
Response: We standardized formula italics throughout the manuscript following IEEE style guidelines.

Comment 5: *There are issues with the quotation marks in the manuscript.*
Response: All quotation marks have been corrected. For example:

"Since the uncertainty set is compact and the constraint functions are continuous, the supremum is attained within the set; therefore, we can replace 'sup' with 'max' in our formulation."