

Comment 12: What is the meaning of the superscript ϵ^+ in the second line of equation (43)? Please explain.

Response: We clarified: “The notation $[\cdot]_{\hat{\lambda}_i}^{\epsilon^+}$ represents the projection operator that ensures $\hat{\lambda}_i \geq \epsilon > 0$, providing regularization for inactive constraints.”

Comment 13: The results obtained from Ref. [22] in the simulation are much smaller, so why are the results of the proposed algorithm in this paper considered to be more effective?

Response: Our approach provides exact convergence to robust optimal solutions through continuous-time dynamics, whereas traditional methods require explicit robust counterpart reformulation. The simulation examples demonstrate cases where RC methods fail entirely (Example B) or become computationally prohibitive.

Comment 14: The justification for Proposition 6 in Appendix B requires further clarification to enhance understanding.

Response: We added a remark before Proposition 6:

“The following proposition establishes existence despite discontinuities from projections, uniqueness via the Lipschitz property, continuous dependence on initial conditions, and thus the validity of Lyapunov analysis for Theorem 4.”

Comment 15: The expression $\lim_{k \rightarrow \infty} = y$ in Proposition 6 seems incorrect. It should likely be $\lim_{k \rightarrow \infty} y_k = y$.

Response: Corrected the typographical error in Proposition 6.

Comment 16: There are several language issues, such as the reversed quotation marks in the last paragraph of the first column on page 5. Please carefully proofread the manuscript.

Response: All quotation marks have been corrected throughout, and the manuscript has been carefully proofread.

Comment 17: The introduction is lengthy and lacks a coherent structure. Please revise it to emphasize the advantages of the proposed method, particularly its ability to operate without prior problem modeling.

Response: The Introduction has been revised to emphasize key advantages:

“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.”

Comment 18: The techniques from Ref. [22] used in the simulation appear outdated and may not reflect the current advancements in the field. To strengthen the comparative analysis, it is recommended to include state-of-the-art algorithms in the evaluation.

Response: We compare with Ref [22] because it represents the classical robust counterpart (RC) approach—the standard method for obtaining exact robust solutions. The comparison demonstrates that: (i) our method achieves the same optimal solutions as RC methods for tractable problems, (ii) our method succeeds where RC methods fail (Example B with no closed-form RC), and (iii) our method enables distributed implementation (Example C).