

**Editorial board Member comment** — I am pleased to inform you that the two examiners and I have made our decision. We are satisfied with this new version of the manuscript and believe that the article is ready for publication. Congratulations and thank you very much for your efforts.

**Reply:** Dear Prof. Pierre Tandeo,

Thank you very much for evaluating and accepting our manuscript for publication.

We have improved some sentences and carefully reviewed the final version of manuscript based on the comments from two reviewers.

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## Reviewer #1

**Reviewer comments 1.1** — You could improve some sentences like “The error growth near these separatrices might presents different characteristics compared with the that far away from the separatrices ...”

**Reply:** We revised the sentence as: “ The instability vectors probably show drastic changes near these separatrices, which might give us the chance to find effective ways for reducing the manipulations in the control simulation experiment”.

**Reviewer comments 1.2** — Line 18: remove “40 variables”? Not wrong, but it will be better to keep consistent with the introduction of L63.

**Reply:** Sun et al. (2022) conducted the CSE on Lorenz-96 model, which is different from Lorenz-63 model. To avoid the possible confusions, we removed “40 variables” here.

**Reviewer comments 1.3** — Lines 24-25: remove “It was demonstrated that CSE can control the trajectory in ideal models”. This sentence is repeated from the previous ones.

**Reply:** Fixed.

**Reviewer comments 1.4** — Line 67: “ETKF” → “EnKF” ?

**Reply:** Fixed.

**Reviewer comments 1.5** — Line 149: “we may be” → “it may be”.

**Reply:** Fixed.

**Reviewer comments 1.6** — Lines 189–191: Remove “To investigate the Lyapunov dimensions through covariant Lyapunov vectors (Norwood et al., 2013; Ginelli et al., 2013, 2007) is our future study for extensively exploring the chaotic characteristics”. This sentence is inappropriate to be here as you have only done experiments with BV and SV. And you already added this perspective in Section Conclusion.

**Reply:** Fixed.

**Reviewer comments 1.7** — In general, we encourage you to carefully review your final version.

**Reply:** We sincerely thank the reviewers and editors for reading and commenting our manuscript. We have carefully checked the final version, and hope it to be published in the *Nonlinear Processes in Geophysics*.