

Nonlin. Processes Geophys. Discuss., referee comment RC2
<https://doi.org/10.5194/npg-2022-1-RC2>, 2022
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Comment on npg-2022-1

Anonymous Referee #2

Referee comment on "Rigid Sets and Coherent Sets in Realistic Ocean Flows" by Florian Feppon and Pierre Lermusiaux, Nonlin. Processes Geophys. Discuss.,
<https://doi.org/10.5194/npg-2022-1-RC2>, 2022

This is another entry in the development of methods to identify Lagrangian coherent structures. There are many mathematical details, which might be better treated in another journal, with significant applications, say, published in NPG. It is somewhat unclear how "diffeomorphism-based" is a new method for discovering LCS. Previous methods are all based on the flow map, ϕ , which is a diffeomorphism. So is this a mere re-branding?

There are results on the three text cases, including the Palau island region, but it is unclear what additional clarity is brought to understanding the Lagrangian transport.