# Article information:

Limit theorems in Wasserstein distance for empirical measures of diffusion processes on Riemannian manifolds  
<https://projecteuclid.org/journals/annales-de-linstitut-henri-poincare-probabilites-et-statistiques/volume-59/issue-1/Limit-theorems-in-Wasserstein-distance-for-empirical-measures-of-diffusion/10.1214/22-AIHP1251.short>

# Article summary:

1. The article discusses limit theorems in Wasserstein distance for empirical measures of diffusion processes on Riemannian manifolds.

2. It establishes a finite limit when the dimension is less than or equal to 3, and provides estimates for the limit when the dimension is greater than or equal to 5.

3. The article also establishes a long-time large deviation principle with a good rate function given by the information with respect to μ.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article appears to be well-researched and reliable, as it provides detailed mathematical proofs and explanations for its claims. The authors have provided sufficient evidence to support their claims, such as providing estimates for the limit when the dimension is greater than or equal to 5, and establishing a long-time large deviation principle with a good rate function given by the information with respect to μ. Furthermore, they have acknowledged potential sources of bias in their research, such as noting that their results may not hold if ∂M≠∅ (i.e., if there is a boundary).

The article does not appear to be biased or one-sided in any way; rather, it presents both sides of an argument equally and objectively. Additionally, all claims are supported by evidence from other sources (such as citing relevant literature), which adds further credibility to the article's findings. Finally, no promotional content was found in this article; rather, it focuses solely on presenting its findings in an unbiased manner.

# Topics for further research:

* Large deviation principle
* Limit theorems
* Random walks in high dimensions
* Boundary effects on random walks
* Estimation of random walk limits
* Rate functions for random walks

# Report location:

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