Erratum: Chern-Simons diffusion rate in a holographic Yang-Mills theory

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The (Minkowski) Chern-Simons diffusion rate should be distinguished more carefully from the (Euclidean) topological susceptibility than was done in the paper. As explained in [1, 2], the Euclidean topological susceptibility analytically continues to a zero-frequency retarded propagator, not to the Chern-Simons diffusion rate (1.2), which is a Wightman propagator.

For our paper, this implies that the low-temperature computation we review in section 3.1 really computes the Euclidean topological susceptibility, not the Chern-Simons diffusion rate. The rest of the paper is not affected: the new computation in section 3.2 does compute the Chern-Simons diffusion rate in the high-temperature phase, and it is this result that is interpreted in terms of 6d physics in section 4.

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References

- [1] P.B. Arnold and L.D. McLerran, *The sphaleron strikes back*, [Phys. Rev. D **37** \(1988\) 1020](#) [[INSPIRE](#)].
- [2] G.D. Moore and M. Tassler, *The sphaleron rate in SU(N) gauge theory*, [JHEP **02** \(2011\) 105](#) [[arXiv:1011.1167](#)] [[INSPIRE](#)].