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Smoothing Properties of the Wilson Flow and Topological Charge

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We explore the smoothing properties induced by Wilson flow and their implications on the topological charge. Our study examines the smoothness of the flowed energy density and the topological charge within the framework of orientifold theories. We find that jumps in these quantities can appear even at very large flow times. These jumps in smoothness coincide with changes in the topological charge and seem to be completely dominated by large spatial fluctuations at the lattice scale.

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