

# Scaling of local slopes, conservation laws, and anomalous roughening in surface growth

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## Abstract-

We argue that symmetries and conservation laws greatly restrict the form of the terms entering the long wavelength description of growth models exhibiting anomalous roughening. This is exploited to show by dynamic renormalization group arguments that intrinsic anomalous roughening cannot occur in local growth models. However, some conserved dynamics may display superroughening if a given type of term is present.

**Index Terms-** Growth models; Kinetic roughening; Scaling functions; Surface growth

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## Citation:

*López, J.M.; Castro, M.; Gallego, R. "Scaling of local slopes, conservation laws, and anomalous roughening in surface growth", Physical Review Letters, vol.94, no.16, pp.166103.1-166103.4, April, 2005.*