Conserved noise Restricted solid-on-solid (CNRSOS) model and Equilibrium Restricted Curvature (Eq-RC) model on a Sierpinski gasket substrate

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The surface structure of an equilibrium restricted curvature (Eq-RC) model on a Sierpinski gasket substrate is studied. The surface width W increases as t^β at early time t and becomes saturated at L^α for $t \gg L^z$, where L is the system size. The growth exponent $\beta \approx 0.323$, the roughness exponent $\alpha \approx 1.54$ and the dynamic exponent $z \approx 4.78$ are obtained numerically. They satisfy the scaling relations $2\alpha + d_f = z$ and $z = 2z_{rw}$ very well, where z_{rw} is the random walk exponent of the Sierpinski gasket. We introduce a fractional Langevin equation to describe the model. This model has a close connection with the Conserved noise Restricted solid-on-solid (CNRSOS) model. We found a relation of the roughness exponents $\alpha_{RC} = z_{rw}/2 = \alpha_{CN}$, and also discussed the mapping between the Eq-RC model and the CNRSOS model.