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Dynamics of precipitation pattern formation at geothermal hot springs[1]

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The spectacular terraced landscape at geothermal hot springs is a world-wide phenomenon, shown here to arise from the nonlinear interplay between turbulent fluid transport and precipitation dynamics. The system is modeled successfully using a discrete space-time model, justified both from renormalization group considerations and our experience modeling phase transition kinetics in condensed matter systems. A variety of scaling laws are predicted and compared with field observations.

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