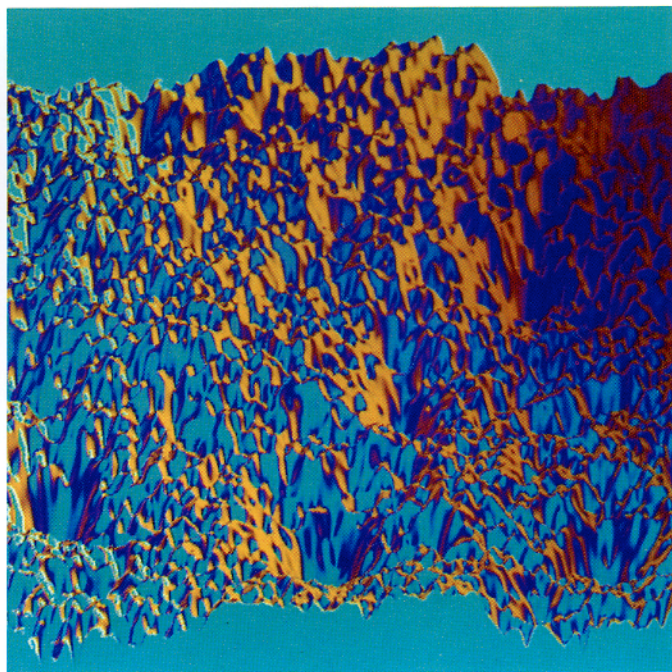
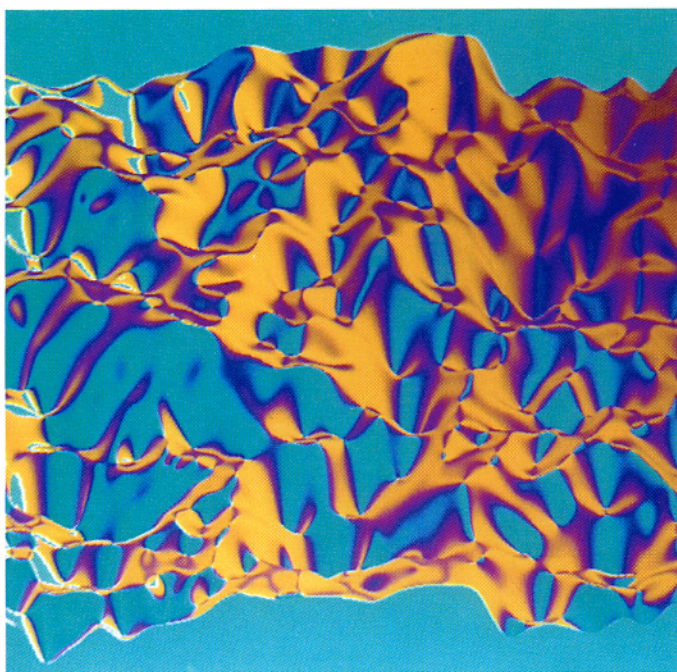
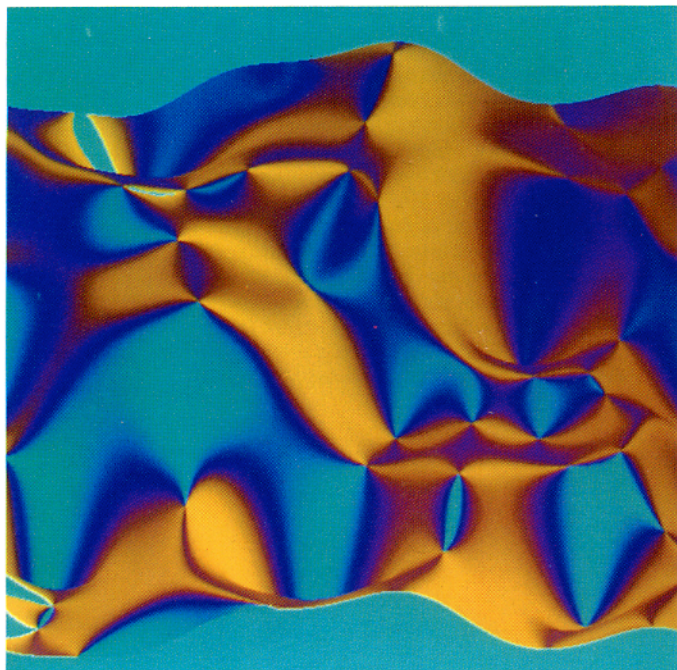


SPRING MEETING 1991

Program and Abstracts



Successive stages in the construction of a universal multifractal temperature field are shown with resolution increasing factors of four, counterclockwise from the upper left corner. The temperature is represented as a surface with false colors, incipient singularities (the high valued spikes) and associated (low valued) "Levy holes" are particularly evident in the low resolution image in the design. The parameters used for the simulation were determined from a time series of turbulent atmospheric temperatures sampled at 5Hz at McGill (Hooge and Manoukian 1989). The Levy index (α) characterizing the degree of multifractality is 1.3, for comparison, 2 is the maximum, and 0 is the (monofractal) minimum. The codimension characterizing sparseness of the mean field is $C_1=0.5$, and finally, the degree of nonconservation (nonstationarity) of the temperature (characterizing the spectral slope and smoothness) is $H=1/3$ (from dimensional analysis; the Corssin-Obukhov scaling).—S. Lovejoy D. Schertzer, EERM/CRMD, Météorologie Nationale, 2 Ave. Rapp, Paris 75007, France; F Begin, D. Lavallée, and J. Wilson, Physics Dept., McGill University, 3600 University St., Montreal, Quebec H3A 2T8, Canada

[This revised caption was supplied by the authors after the figures were published in Eos.]