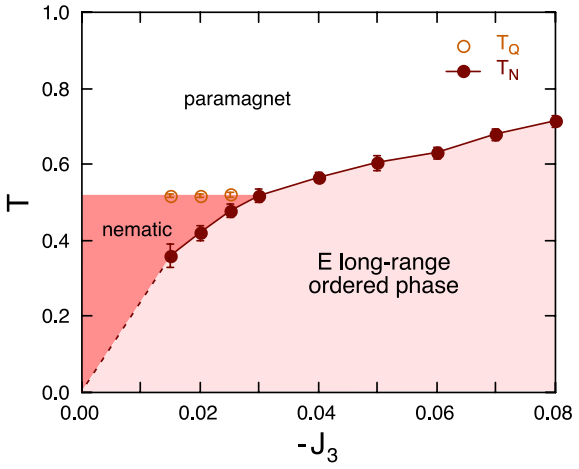

FIG. 24: (Color online) Phase diagram for the classical Heisenberg antiferromagnet on a pyrochlore lattice, Eq. (1), in applied magnetic field $h = 0$, with additional biquadratic interactions $b = 0.6$. The transition temperature T_N associated with the E–symmetry long–range order vanishes as the strength of ferromagnetic third–neighbor interactions $J_3 \to 0$, as determined by Monte Carlo simulation. A phase exhibiting nematic order exists above T_N up to a $T_Q \sim b$.