

Guideline questions for the Lorenz and Saltzman papers:

1. Compare and contrast the different goals of Saltzman and Lorenz.
2. Discuss experimental implementations of Lorenz' work (for the Vermont group!)
3. Lorenz "proves" that non-periodic motion can occur in a simple system.
4. The equations should be called the Saltzman equations as he derived them first. Discuss.
5. Lorenz' work is so important because he showed there is a strange attractor in a simple system.
6. Lorenz' work has had so much influence in the climate community because it showed the limits to predictability.
7. The phenomena exposed in a low-dimensional model should not be viewed as physically relevant unless we know they are reproduced in the (full) model being approximated.
8. If an approximation obtained by cutting off all but a small number of modes cannot be justified mathematically then it should not be trusted to give physically realistic results.
9. Just because chaotic motion occurs in a low-dimensional model like the Lorenz system, there is no reason to believe it will be ubiquitous in high-dimensional systems.