1014-37-41   **Oliver Diaz*** (`odiaz@math.utexas.edu`), Department of Mathematics, 1 University station C1200, Austin, TX 78712. *Central Limit Theorem for one-dimensional dynamical systems with weak random noise.* Preliminary report.

We study the asymptotic behavior of one-dimensional dynamical systems with a weak random perturbation. We will give sufficent conditions for the existence of a Central Limit Theorem for systems where the magnitud of the noise is small. We discuss some examples such as the Feigenbaum fixed point of the double-period renormalization group operator, and smooth diffeomorphisms of the circle with Diophantine rotation number. (Received July 04, 2005)