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**Oliver Diaz\*** ([odiaz@math.utexas.edu](mailto: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 sufficient conditions for the existence of a Central Limit Theorem for systems where the magnitude 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)