

Meeting: 1001, Evanston, Illinois, SS 12A, Special Session on Iterated Function Systems and Analysis on Fractals

1001-37-14 **Mariusz Urbanski*** (urbanski@unt.edu), Department of Mathematics, University of North Texas, P.O. Box 311430, Denton, TX 76203-1430. *Diophantine Approximation for Conformal Measures of One-Dimensional Iterated Function Systems.*

Recall that a Borel measure μ on \mathbb{R} is called extremal if μ -almost every number in \mathbb{R} is not very well approximable. In this paper, we investigate extremality (and implying it the exponentially fast decay property (efd)) of conformal measures, induced by regular infinite conformal iterated function systems. We then give particular attention to the class of such systems generated by the continued fractions algorithm with restricted entries. It is established that if the index set of entries has bounded gaps, then the corresponding conformal measure satisfies the (efd) property and is extremal. Also a class of examples of index sets with unbounded gaps is provided for which the corresponding conformal measure also satisfies the (efd) property and is extremal. (Received May 10, 2004)