

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

1001-28-112 **Ka-Sing Lau** (kslau@math.cuhk.edu.hk), Department of Mathematics, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong, and **Sze-Man Ngai*** (smngai@georgiasouthern.edu), Department of Mathematical Sciences, Georgia Southern University, Statesboro, GA 30458. *A generalized finite type condition for iterated function systems.*

We study *iterated function systems* (IFS) of contractive similitudes on \mathbb{R}^d with overlaps. We introduce a generalized finite type condition which extends the existing more restrictive condition and allows us to include IFS's of contractive similitudes whose contraction ratios are not exponentially commensurable. We show that the generalized finite type condition implies the weak separation property. Under this condition, we can reduce the IFS to a graph-directed system and by modifying a setup of Mauldin and Williams, we can compute the Hausdorff dimension of the attractor in terms of the spectral radius of certain weighted incidence matrix. (Received August 18, 2004)