1044-37-172 **Matthew Nicol*** (nicol@math.uh.edu), University of Houston, Houston, TX 77204-3008, and **Mark Holland** and **Andrew Torok**. *Return time statistics and extreme value theory for non-uniformly hyperbolic dynamical systems.*

We present results on extreme value theory (which concerns the distribution of successive maxima of a time series of observations) for observables with multiple maxima on a broad class of dynamical systems, including some non-uniformly hyperbolic systems. These results have implications for the return time statistics of these systems. The main result is that a broad class of observations on certain non-uniformly hyperbolic systems exhibit the same extreme value statistics as i.i.d processes with the same distribution function. (Received August 31, 2008)