1086-37-1984 **Rachel Louise Bayless*** (rbayless@unc.edu), UNC - Chapel Hill Dept. of Mathematics, Phillips Hall CB #3250, Chapel Hill, NC 27599. *Entropy of Infinite Measure-Preserving Transformations.* Preliminary report.

The entropy of a system measures the amount of information gained with each application of an experiment or transformation, so higher entropy corresponds to higher disorder and less predictable systems. The classical definition of entropy for a measure-preserving system relies heavily on the ability to associate probabilities to possible events or outcomes. Thus, classical measure-theoretic entropy is only defined for probability-preserving transformations, and there is no universal analogue for infinite systems. A few possible extensions have been given independently by Krengel, Parry, and Roy.

In this talk we motivate the definition of Krengel entropy for infinite measure-preserving systems. We also provide a method for computing the Krengel entropy of all rational R-functions of negative type (rational functions which permute the upper and lower half planes of $\mathbb{C}$ while preserving Lebesgue measure on $\mathbb{R}$). The Krengel entropy coincides with that of Parry and Roy in theses cases. (Received September 24, 2012)