

Bounding the Number of Measures of Maximal Relative Entropy  
Karl Petersen

In joint work with Anthony Quas and Sujin Shin, we show that given a factor map from an irreducible subshift of finite type  $X$  to a subshift  $Y$ , for each ergodic measure  $\nu$  on  $Y$  there can only be finitely many ergodic measures on  $X$  which project to  $\nu$  and have maximal measure in the fiber. The argument provides an explicit bound for the number of relatively maximal measures in any fiber. The key construction involves interleaving two measures whose relatively independent joining assigns positive measure to the set of pairs which coincide at a given time so as to obtain a measure of higher entropy.