## WOJCIECH JAWORSKI, Carleton University

Dissipation of Convolution Powers in a Metric Group

In contrast to what is known about probability measures on locally compact groups, a metric group G can support a probability measure  $\mu$  which is not carried on a compact subgroup but for which there exists a compact subset  $C \subseteq G$  such that the sequence  $\mu^n(C)$  fails to converge to zero as n tends to  $\infty$ . A noncompact metric group can also support a probability measure  $\mu$  such that supp  $\mu = G$  and the concentration functions of  $\mu$  do not converge to zero. We will discuss a number of conditions which guarantee that the concentration functions in a metric group G converge to zero. We will also present a sufficient and necessary condition in order that a probability measure  $\mu$  on G satisfy  $\lim_{n\to\infty} \mu^n(C) = 0$  for every compact subset  $C \subset G$ .