When proving limit laws for normed sequences $(X_n - b_n)/a_n$, problems occur in proving tightness of $(X_n - b_n)/a_n$ for cases where F is in the domain of attraction of extreme value distributions of type II or III.

In this talk we will reformulate this tightness problem for the case that F is the uniform distribution on $[-1, 0]$.

Strong Approximation of Records and Record Times by Poisson and Wiener Processes

Dietmar Pfeiffer, *RWTH Aachen, FR Germany*

For an i.i.d. sequence of random variables we investigate the asymptotic strong behavior of record values and record times. Several approaches are considered which relate record times with Poisson processes, which gives rise to a strong approximation by Wiener processes in the sense of Komlos-Major-Tusnady. Interesting new relationships between record times and the jump times of extremal processes as well as the record values are among the results to be presented.

Maxima of Symmetric Stable Processes

Gennady Samorodnitsky, *University of North Carolina, Chapel Hill, NC, USA*

We study large deviations of symmetric stable processes represented as stochastic integrals with respect to random symmetric stable measures.

The exact asymptotic behavior of supremum distribution functions is established for symmetric stable processes with $0<\alpha<1$, as well as for those defined on finite parameter sets. For symmetric stable processes with $1\leq\alpha<2$ defined on infinite sets, an asymptotic lower bound for the supremum distribution function is given.

We deduce a necessary and sufficient condition for a.s. boundedness of symmetric stable processes with $0<\alpha<1$, and a necessary condition for a.s. boundedness of symmetric stable processes with $1\leq\alpha<2$.

Large Deviations of Jump Markov Processes with Flat Boundaries

Alan Weiss, *AT&T Bell Laboratories, Murray Hill, NJ, USA*

Large deviations come up naturally in the study of certain telecommunication and queueing systems. These systems usually have boundaries, such as finite queue sizes or transmission capacities, which make it difficult to determine rate functions. In this paper, we show how to calculate the rate function when the boundaries may be represented as hyperplanes, the usual situation in practice. (We must assume that the sample paths avoid the corners and edges of the system, which remain subjects for future work.) We illustrate our results with examples from queueing and control.