

SCALING LIMITS OF COUPLED CONTINUOUS TIME RANDOM MAXIMA

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Continuous Time Random Walks are a generalization of classical random walks: after a random waiting time W_i appears a particle jump with random jump size J_i . The Continuous Time Random Maxima is the process which tracks the largest jump that appears in a series of jumps separated by the random waiting times. We consider the coupled case where the waiting times and the jump sizes are not assumed to be independent. To analyze this we use harmonic analysis on the semigroup $(\mathbb{R}_+ \times \mathbb{R}, \overset{+}{\vee})$, where the operation $\overset{+}{\vee}$ means "+" in the first argument and "max" in the second.