WEAKLY COUPLED LEVY TYPE OPERATORS AND SWITCHED LEVY TYPE PROCESSES

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Abstract: The switched Lévy type process associated with a weakly coupled Lévy type operator is constructed by the Ikeda-Nagasawa-Watanabe piecing together procedure. The non-explosiveness and Feller property are proved for the switched Lévy type process. Based on these results, exponential ergodicity is obtained under the Foster-Lyapunov drift condition. Finally, the Harnack inequality for the switched Lévy type process is proved.

This talk is based on joint work with Zhen-Qing CHEN.