1015-60-63 **Xin Guo** (xg29@cornell.edu), 224 Rhodes Hall, School of OR & IE, Cornell University, Ithaca, NY 14853, and **Yan Zeng*** (zeng@math.fsu.edu), 208 Love Building, Department of Mathematics, Florida State University, Tallahassee, FL 32306. *Intensity process and compensator: A new filtration expansion approach and the Jeulin–Yor formula.*

Consider the following problem. Let $(X_t)_{t\geq 0}$ be a continuous-time, time-homogeneous strong Markov process with possible jumps and let τ be its first hitting time of a Borel subset of the state space. Suppose we sample X at discrete times and suppose also that X has not hit the Borel set by time t. What is the intensity process of τ based on this information?

We solve a general version of this problem by formulating a local jumping filtration. We propose a new filtration expansion method and obtain an extended Jeulin–Yor (1978) result regarding compensators under this filtration expansion. This extension enables us to obtain a new methodology to explicitly compute the intensity process of a stopping time.

In addition, under the local jumping filtration, we prove an analogous characterization theorem for martingales of Jacod and Skorohod (1994). (Received February 05, 2006)