1047-62-50   **Akimichi Takemura*** (`takemura@stat.t.u-tokyo.ac.jp`) and **Hisayuki Hara** (`hara@tmi.t.u-tokyo.ac.jp`). *Some results on connectivity of fibers with a subset of a Markov basis.*

Markov basis defined by Diaconis and Sturmfels (1998) is very useful for performing conditional tests of discrete exponential family models. Markov basis allows us to construct a connected Markov chain for arbitrary values of the sufficient statistics. However when a data set is given, we are interested in connecting the particular fiber (i.e. the conditional sample space, where the data set belongs) only. Then there is a possiblity that a proper subset of a Markov basis is sufficient for the connectivity of the fiber. In general it is a hard problem to decide whether a particular subset connects the fiber or not. In this talk we present some recent results on connectivity of specific fibers for several important statistical models. (Received January 04, 2009)