1154-60-128   **Yu-Sin Chang*** (`changy@msoe.edu`), 1025 North Broadway, Milwaukee, WI 53202. *Markovian Consistency of Multivariate Markov Processes.* Preliminary report.

The Markovian consistency theory studies the Markov property of the coordinate process of a multivariate Markov process with respect to different filtrations. In this paper, we investigate necessary and sufficient conditions for the component of a continuous-time multivariate Markov process, taking values in continuous state space, to have a prescribed marginal law; moreover, the component is Markov in its natural filtration, but not Markov in the filtration of the multivariate process. We address verifiable conditions in terms of transition characteristics of the multivariate Markov process. Besides, we extend the results in Rogers and Pitman (1981) to the class of time-inhomogeneous multivariate Markov processes with coordinate projections. In particular, if the multivariate Markov process is homogeneous, upon applying the conditional expectation operator, the component may be a homogeneous or an inhomogeneous Markov process in its natural filtration. Finally, we give examples in cases of discrete and continuous state spaces. In continuous state example, we show that a class of Archimedean survival processes whose components are Markovian in their natural filtrations, respectively, satisfies our sufficient condition for the component to be Markov in its natural filtration. (Received August 12, 2019)