1038-60-111 **Oesook Lee*** (oslee@ewha.ac.kr), Department of Statistics, Ewha Womans University, Seoul, 120-750, South Korea. *Geometric Ergodicity and beta-mixing Property for a Seasonal GARCH model with Periodic Coefficients.*

After seminal works of Engle (1982) and Bollerslev (1986), one of the most popular and successful models in describing the time-varying variance of financial and economic data became GARCH-family model. Recently, in widely available ultra-high frequency data, cyclical patterns in volatility are observed and GARCH-type model with periodic parameters comes into the attention. It is known that when the Markov process is irreducible, Foster-Lyapunov type drift condition implies the geometric ergodicity provided the Markov process satisfies some suitable continuity condition. Proving the irreducibility of the GARCH-type model, however, is in many cases a hard job. Together with drift condition, we may use uniform countable additivity condition which involves only one-step transition probability to get the geometric ergodicity of the process. We consider a seasonal GARCH model with periodically varying coefficients. The process is represented as a vector-valued Markov chain given by a stochastic recurrence equation and a necessary and sufficient condition for the existence of periodic stationary solution, geometric ergodicity and beta mixing property of the process is established. Moments conditions are also considered. (Received February 03, 2008)