5007-60-565 **Víctor Hugo Vázquez Guevara*** (vvazquez@fcfm.buap.mx), Facultad de Ciencias Físico Matematicas., Av. San Claudio y 18 sur. Col. San Manuel, 72570 Puebla, Mexico. *On a new Durbin-Watson serial correlation test for ARX processes in persistently excited adaptive tracking.*

A new statistical test for autocorrelation in ARX adaptive tracking is proposed. The introduction of persistent excitation in the adaptive tracking control allows us to build a bilateral test based on the Durbin-Watson statistic. We establish the almost sure convergence and the asymptotic normality for the Durbin-Watson statistic leading to a powerful serial correlation test. (Received May 15, 2013)