1061-37-139 **Mike Boyle**, **Jerome Buzzi** and **Ricardo Gomez*** (rgomez@math.unam.mx), Area de la Investigacion Cientifica, Circuito Exterior, Ciudad Universitaria, 04510 Mexico, D.F., Mexico.
Almost isomorphism for countable state Markov shifts.

Markov shifts are dynamical systems that consist of sequences that correspond to doubly infinite paths in (countable) directed graphs together with the left shift map. Strong positive recurrent Markov shifts are those which are exponentially recurrent and this is the class that most resembles finite state Markov shifts. We will mainly focus on showing that entropy and period constitute a complete invariant of *almost isomorphism*, which can be viewed as an analogue of the Adler-Marcus classification of irreducible shifts of finite type up to almost topological conjugacy by entropy and period (this result provides simple invariants which classify the natural extensions of various smooth, piecewise smooth and symbolic systems up to *entropy conjugacy*: Borel conjugacies between sets which have full measure for all ergodic measures with entropy near the topological entropy). (Received April 12, 2010)