1077-60-1307   **Mark Burgin** and **Alan Krinik*** (`ackrinik@csupomona.edu`), 3801 West Temple Avenue, Department of Mathematics and Statistics, Cal Poly Pomona, Pomona, CA 91768, and **David Luu**. *The Gambler's Ruin Problem for a Class of Non-stationary Markov Chains.*

A special type of non-stationary, birth-death Markov chain on a finite state space is shown to have well-defined ruin probabilities along the lines of the classical Gambler's Ruin Problem. Ruin probabilities are calculated for some specific examples of non-stationary Markov chains. This result was originally motivated by considering periodic hyper-probabilities. However, our proof technique makes use of characterizations of strongly ergodic Markov chains as well as results on dual processes. (Received September 19, 2011)