1056-92-627   **V Arunachalam*** (`aviswana@uniandes.edu.co`), Department of Mathematics, Bogota, Bogota AA 4976, Colombia. *Stochastic Modeling of The Loss of Telomere Sequences.*

Telomeres are central elements in aging and cancer. Due to the absence of telomerese, each time that the cell is divided, it loses telomere sequences. Consequently, the length of the DNA is critically reduced and it directs the cell to stop its division, entering a senescence state. Variability of the individual cells is an important consideration in the description of population. Age structured models allows such a description, for instance age of cell determines its telomere loss rate. Thus a realistic description of the population growth and telomere shortening requires an age-dependent model. This paper develops with an age-dependent model of telomere shortening in the cell to study the telomere loss in cell culture. Product density approach provides an elegant method in obtaining the moments of the numbers of telomere losses in cells. (Received September 14, 2009)