1125-92-2690   **Amin Oroji**, **Mohd Omar**, **Ivy Chung** and **Shantia Yarahmadian***
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MS 39762. *An Ito stochastic differential equations model for the dynamics of the MCF-7 breast
cancer cell line treated by radiotherapy with the experimental results.* Preliminary report.

We introduce a new mathematical model for studying the population dynamics of breast cancer cells treated by radiotherapy by using a system of stochastic differential equations. As a novel approach, the model captures the concept of the cell cycle in the modeling to be able to evaluate the tumor lifespan. The simulation and experimental results will be presented to show the effectiveness of the radiation under the condition of stability. (Received September 20, 2016)