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Coupling Immunodeficiency factors to a normal cell system growing conjointly with tumor cells MITRA SHOJANIA FEIZABADI, Seton Hall University, TARYNN M. WITTEN, Virginia Commonwealth University — In this work, we modify Witten's conjoint normal-tumor cell model in order to incorporate the presence of a simple immune system. We first examine the behavior of normal and tumor cells when tumor cells interact with surrounding normal cells. We then extend our model and add the effects of a simple immune system, immune-suppression factors and immune-chemotherapeutics agents. The evolution of the system variables is investigated via computer simulation. We show that the evolution of normal and tumor cells population is significantly affected by the choice of drug or immunodeficiency.

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