

1125-58-1751 **Caleb Mayer*** (clmayer@haverford.edu), 184 Forest Street, Oberlin, OH 44074, and **Robert Dougherty-Bliss** and **Heidi Whiteside**. *Global Dynamics of a Cancer Stem Cell Treatment Model*. Preliminary report.

We provide global stability arguments for a cancer treatment model with chemotherapy and radiotherapy that accounts for the cancer stem cell hypothesis. Employing the method of localization of compact invariant sets, we resolve the global dynamics of the no-treatment, constant radiation, and combination chemotherapy and radiotherapy cases. In our analysis of the combination treatment model, we show that the presence of a chemotherapy agent lowers the required radiation strength for a globally asymptotically stable cure state. (Received September 19, 2016)