1086-37-443   **Sukanya Basu*** (`basu1s@cmich.edu`), Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859. *A Comparison of the Local and Global Dynamics of Monotone and Antimonotone Maps in the Plane.*

Monotone and antimonotone maps have widespread applications in many areas of real life. For example, monotone maps are associated to discrete competitive mathematical models in Biomathematics such as the Leslie-Gower population model. Antimonotone maps are associated to discrete mathematical models involving negative feedback loops such as mechanical control systems and gene regulatory networks. Although planar monotone maps are very well-understood at this point due to the works of Hirsch, Smith, Dancer and Hess, Kulenović and Merino etc., the same is not necessarily true for planar antimonotone maps. In this talk, I will discuss the local and global dynamics of orbits of a class of planar antimonotone maps. I will also compare this to the local and global dynamics of orbits of a similar class of planar monotone maps to get some very interesting results. (Received September 02, 2012)