1014-U1-1011   **Martin E. Flashman*** (`flashman@humboldt.edu`). *Visualizing Partial Derivatives without Graphs.* Preliminary report.

In this presentation the author will explain and use free graphing technology (Winplot) to illustrate how to visualize the partial derivative without graphs. The treatment is suitable for any introductory treatment of the concept. Based on mapping (transformation) figures this approach allows students to understand the concepts in an n-dimensional context without any change in presentation from that given for the ordinary derivative. (Received September 26, 2005)