

1135-C5-1812      **Alexander M. Gofen\*** ([galex@ski.org](mailto:galex@ski.org)), 333 Fell St. #218, San Francisco, CA 94102. *Teaching ODEs with dynamics*. Preliminary report.

This is about a teaching potential of unique software for integration, plotting, and exploring ODEs . an all-in-one graphics package for Windows called the Taylor Center [1]. It.s a powerful tool with unique features both for experiments in research and for teaching various aspects of ODEs. Dynamics are crucial while teaching applied ODEs.

This software plots solutions in a real time animation, giving the viewer not only the final shape of the trajectory as a still image, but also the dynamical evolution of the curve in real time, as a trajectory of a bullet (available both for planar trajectories in 2D and also in 3D viewed via a pair of cheap anaglyph (red/blue) glasses). Moreover, a versatile Phase Portrait Designer visualizes the image of the general solution of ODEs (see pictures in [1]).

Besides this straightforward purely graphical assistance in teaching, there are many examples how this package can be used for demonstration of more sophisticated properties of ODEs [2]. This package is preloaded with various illustrative examples in classical ODEs. However it is possible to develop sets of samples supporting nearly every textbook on ODEs, making such textbooks more attractive and motivating.

1. [taylorcenter.org/Gofen/TaylorMethod.htm](http://taylorcenter.org/Gofen/TaylorMethod.htm)
2. [taylorcenter.org/Gofen/Teaching](http://taylorcenter.org/Gofen/Teaching) (Received September 25, 2017)