Emanuel Casiano-Díaz PHYS-256 , Computational Physics Prof. Adrian Del Maestro

Project Update

References:

- 1) Giordano, Nicholas J. Computational Physics. Upper Saddle River, NJ: Prentice Hall, 1997. Print.
- 2) Guettler, K., E. Schoonderwaldt, and A. Askenfelt. "Bow Speed or Bowing Position— Which One Influences Spectrum The Most?" Proceedings of the Stockholm Music Acoustics Conference, August 6-9, 2003 (SMAC 03), Stockholm, Sweden (2003): n. pag. Web.
- 3) 3) Strings, standing waves and harmonics. (n.d.). Retrieved from https://newt.phys.unsw.edu.au/jw/strings.html#modes

Updated Goals:

- -Study the string profile of a bowed instrument (such as a violin or viola):
 - Generate plots of displacement vs time
 - Study how parameters such as the string length, bowing point and bowing velocity affect the motion
 - Study the motion at string lengths where harmonics (natural and artificial) occur

Milestones:

- -Started developing code to replicate the plots in pages 371 and 372 of *'Giordano and Nakanishi Computational Physics'* following their pseudocode.
- -Better physical understanding of the underlying mechanism by reading the references above

Project timeline:

- -October 27, 2016: Started project
- -November 9, 2016: Read section 11.1-11.3 of reference 1
- -November 10, 2016: Began writing python code to reproduce plots in sections 11.1-11.3 of reference 1