Contribution ID: **273**   Type: **Oral Presentation**

Solving differential equations of Quantum Mechanics in 1 D and 2 D using Sinc functions employing Python and Numpy.

Thursday, 11 July 2019 11:40 (20 minutes)

The Schroedinger equation in one and two dimensions is solved using sinc functions, applying the variational principle and employing Python and Numpy. Our goal is to examine how the sinc function method performs with respect to its convergence rate. The python codes are tested with the quantum harmonic oscillator potential and Morse potential, for which analytical solutions are available.
It is found that the method converges quickly.

Apply to be
 considered for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD, N/A)?

MSc

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Session Classification: Theoretical and Computational Physics

Track Classification: Track G - Theoretical and Computational Physics