

# Wave-cartesian quantum spaces

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## INTRODUCTION

Cartesian graphs were invented to visualise algebraic expressions. These graphs at the smallest level are infinitely small points. However from recent research at the smallest level of Quantum Physics, space can be represented better with waves. Hence in order to visualise quantum mathematical expressions, Cartesian graphs must be defined by waves instead of points. Hence the idea of Wave-Cartesian became a necessity. Not to mention that this will allow for plots containing traditional algebraic expressions as well as polar algebraic expressions.

## CARTESIAN TO WAVE CARTESIAN

In order to obtain a wave cartesian plot, one must convert the x domain and y domain to become a wave function. Hence,

$$x = \Psi(x), \quad (1)$$

$$y = \Psi(y). \quad (2)$$

These new coordinate domains can be displayed as the new coordinate plot axis. So the axis are no longer straight lines but instead sinusoidal. Note that this allows to show space stretching and contracting.

## WAVE CARTESIAN

By using the compression wave equation as the xy axis it is possible to stretch and compress space as seen in figure

## THE APPARENT SIMULTANEITY OF CARTESIAN AND POLAR

Every trajectory that ever comes into existence is simultaneously Cartesian and Polar depending upon the chosen perspective one can see purely Cartesian or purely Polar trajectories.

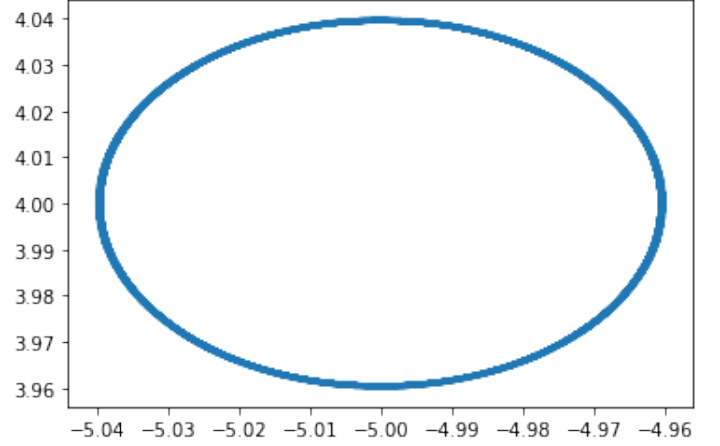


FIG. 1. Top left we have exponential function seen in equation.

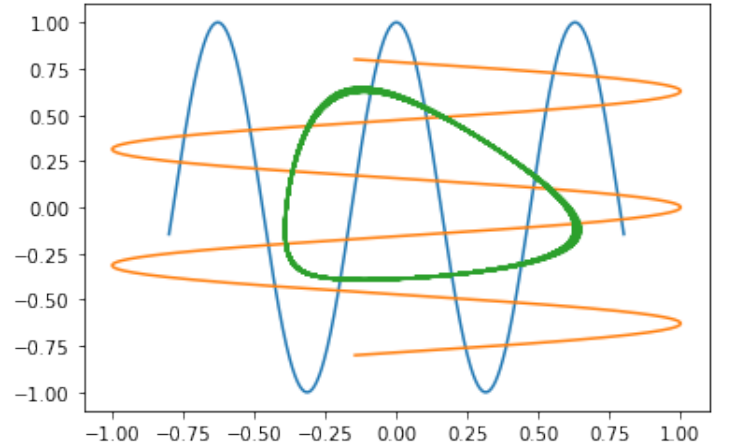


FIG. 2. Top left we have exponential function seen in equation.

## EFFECTS ON SPACE TIME

## EFFECTS ON MASS AND ENERGY

- polar wave - waves

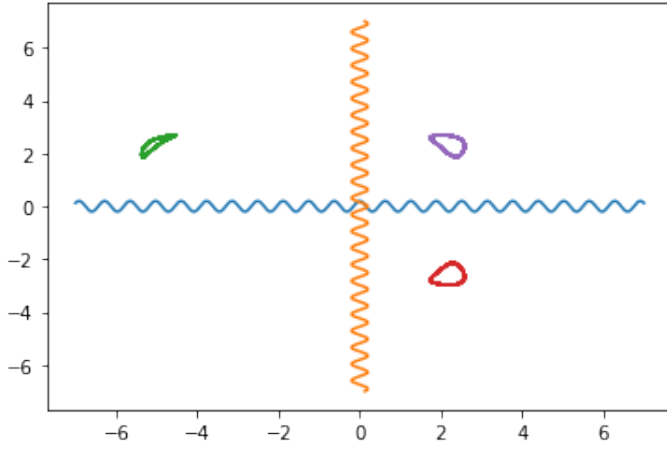


FIG. 3. Top left we have exponential function seen in equation.

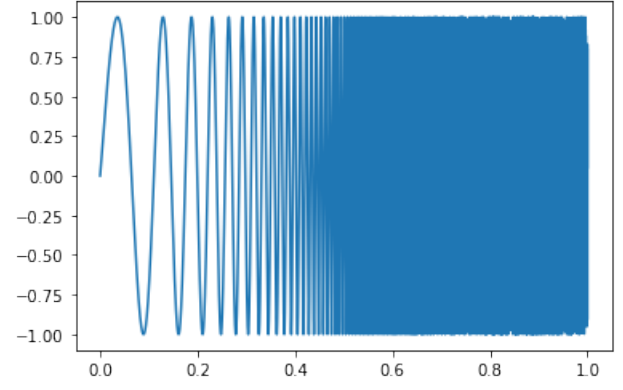


FIG. 4. Compression wave.

## SIMILARITIES TO GRAVITATIONAL WAVES

### CONCLUSION

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  - [3] A.P. Vanden Berg, D.A. Yuen, G. Beebe, M.D. Christiansen. *The dynamical impact of electronic thermal conductivity on deep mantle convection of exosolar planets.* (2010). Elsevier.

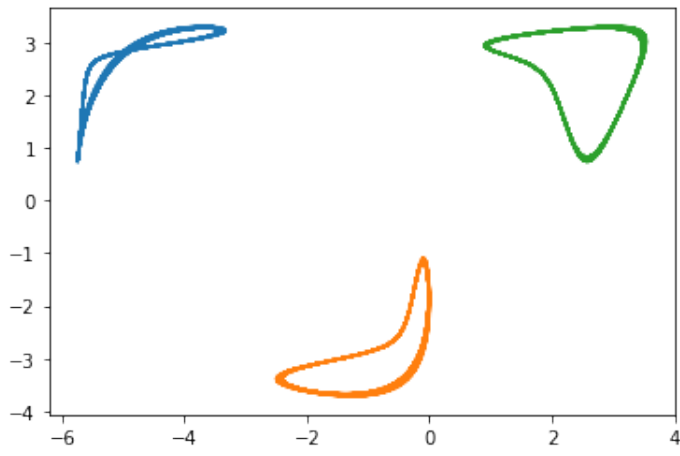


FIG. 5. Top left we have exponential function seen in equation.