

FOURIER SERIES

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CATEGORY:Mathematics

APPLICATION:

Fourier Series approximations are very useful in many applications. In the application we discuss in this section we use only the sine series approximation to the square wave

$$y = (4/\pi)\sin(x) + (4/3\pi)\sin(3x) + (4/5\pi)\sin(5x) + \dots + (4/k\pi)\sin(kx)$$

This application allows up to 12 terms of this series ($k=25$). It also allows a choice of axes and it has the ability to overlay one series over another to see the change in accuracy. One can also observe the Gibbs phenomenon of the "spikes" at the points of discontinuity.

USAGE: Demonstration of FourierSeries in mathematics classes.

DEVELOPMENT: NeXTSTEP 2.0