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Title: Uncertainty Principles

Authors: Nagal, Shikha (/jspui/browse?type=author&value=Nagal%2C+Shikha)

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Heisenberg Uncertainty Principle

Fourier Transform
Fourier Series
Uncertainty Principles

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Abstract: Most of life is uncertain, no one with 100 percent accuracy can tell what's going to happen next in

their life. In 1927 Prof. Heisenberg claimed that it is not possible to simultaneously measure the complementary pairs; in his case momentum and position of a particle with 100 percent accuracy. In 1928 Kennard and Weyl separately gave the detailed proof of the claim. From there several questions came into existence regarding under what different conditions can you see uncertainties and how these uncertainties help us to make optimised decisions. Taking inspiration from the classical uncertainty principle: the Heisenberg uncertainty principle; I tried to analyse the simultaneous behaviour of a function and its Fourier transform under different notions of

concentration

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