

Fourier transform and oscillation amplitude

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Howdy mathematicians!

How can one obtain the oscillation amplitude from the Fourier spectrum?
This question is trivial if discrete Fourier transform has value different than zero only for one frequency. However, usually Fourier transform looks something like that:

- 6.0 Hz – 1 mm
- 6.1 Hz – 10 mm
- 6.2 Hz – 40 mm
- 6.4 Hz – 5 mm

What is the amplitude of oscillation in that case?

Also, if 40 mm represents a peak, what is a correct name the whole structure? In physics we commonly use expression "mode", but I find this expression rather clumsy for other disciplines.

Thanks for the answers,

Marko

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