

F14MICHOPS

Michelson interferometer. Beamsplitter is assumed to be ideal with 50-50 efficiency. Fringe pattern on displacement of mirrors.

Amplitude and intensity pattern depending on displacement x of mirror.
The "space coordinate" is a sequence of discrete points, all having the same distance.

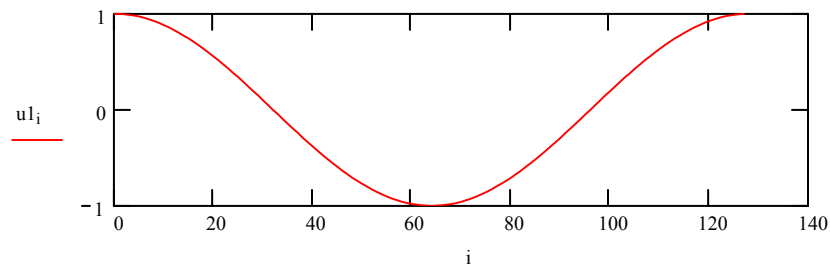
1. Cosine function, one frequency, amplitude.

The space coordinate runs from 0 to 127

$i := 0..127$

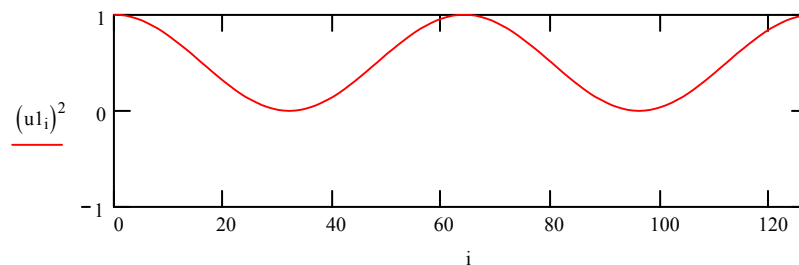
$$u1_i := \sum_{k=1}^1 \cos\left[\left(2 \cdot \pi \cdot \frac{k}{128}\right)i\right]$$

We have $k = 1/128$ as the frequency,



We just go through one cycle.

2. Cosine function, one frequency, intensity.

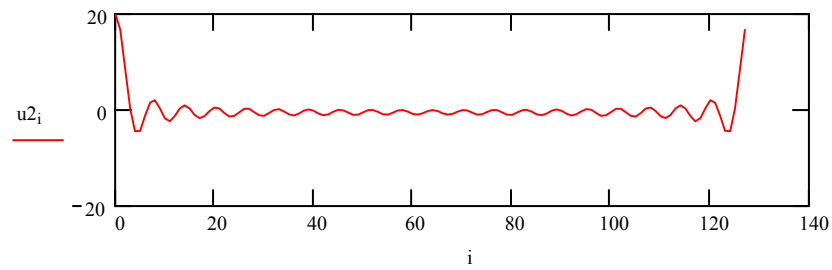


3. Cosine function, many frequencies, amplitude.

$i := 0..127$

$$u2_i := \sum_{k=1}^{20} \cos\left(2 \cdot \pi \cdot \frac{k}{128} \cdot i\right) \quad k = 1/128, 2/128 \dots 20/128$$

are the frequencies,



4. Cosine function, many frequencies, intensity.

