

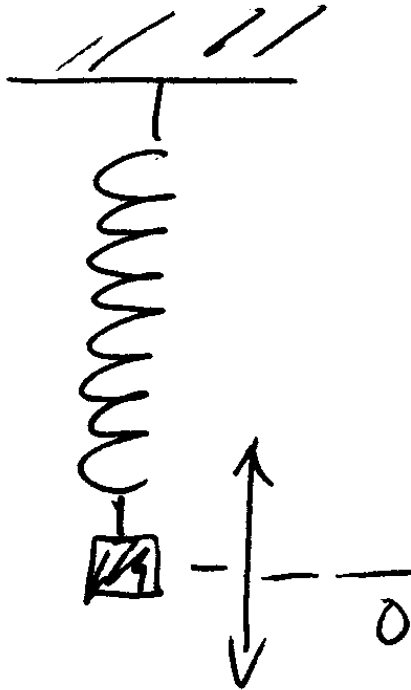
Physics for you:

# From SHM to waves

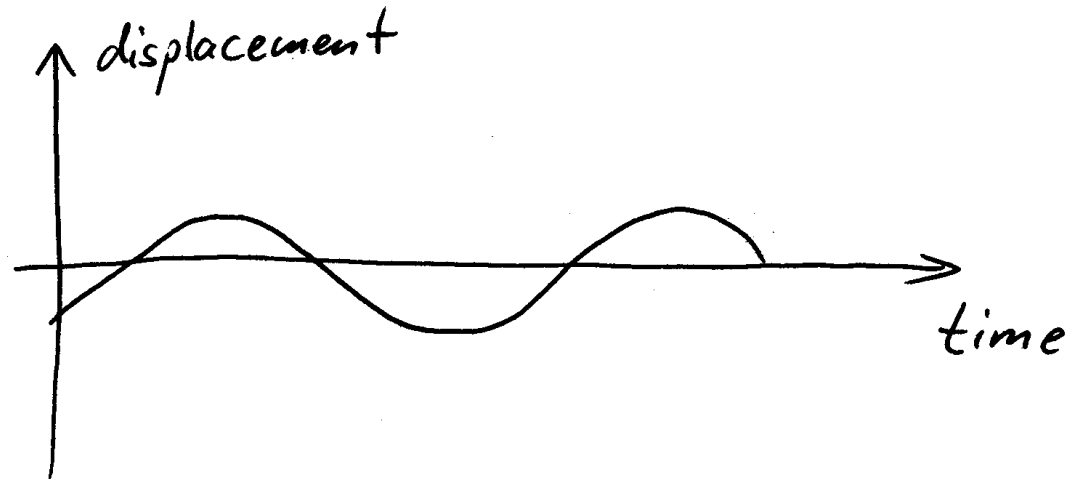
(SHM: Simple Harmonic Motion,  
also known as *oscillations*)

# A typical harmonic oscillator:

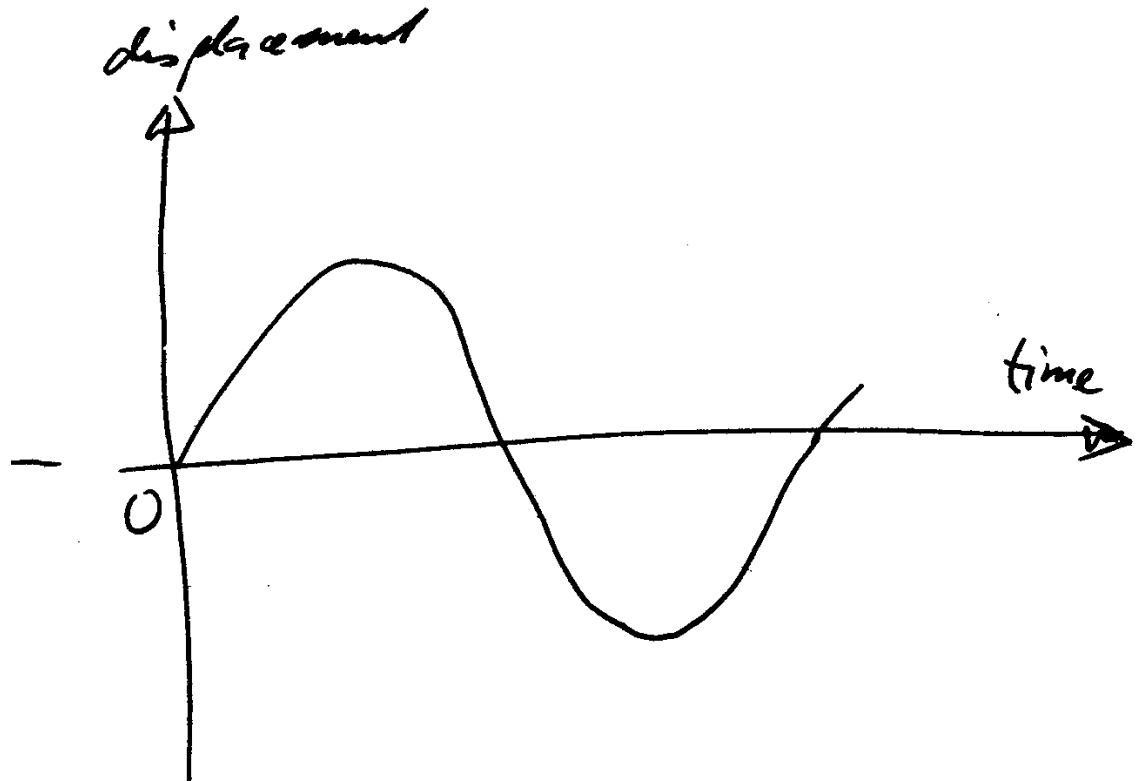
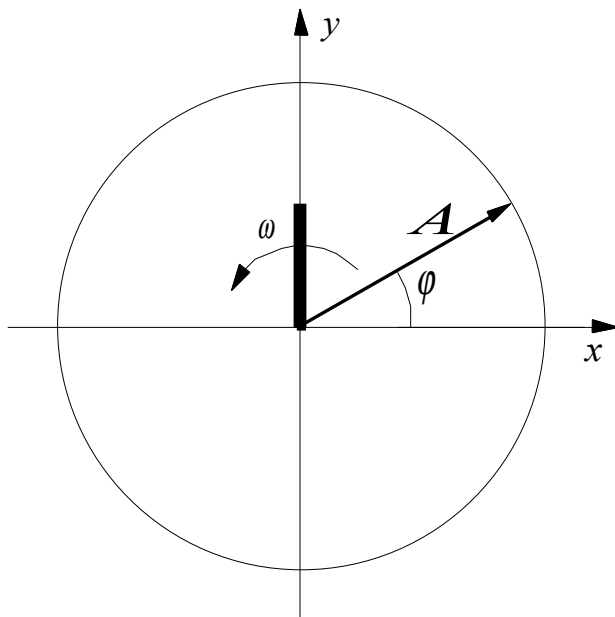
The spring pendulum ...



... has a sinusoidally varying time dependence

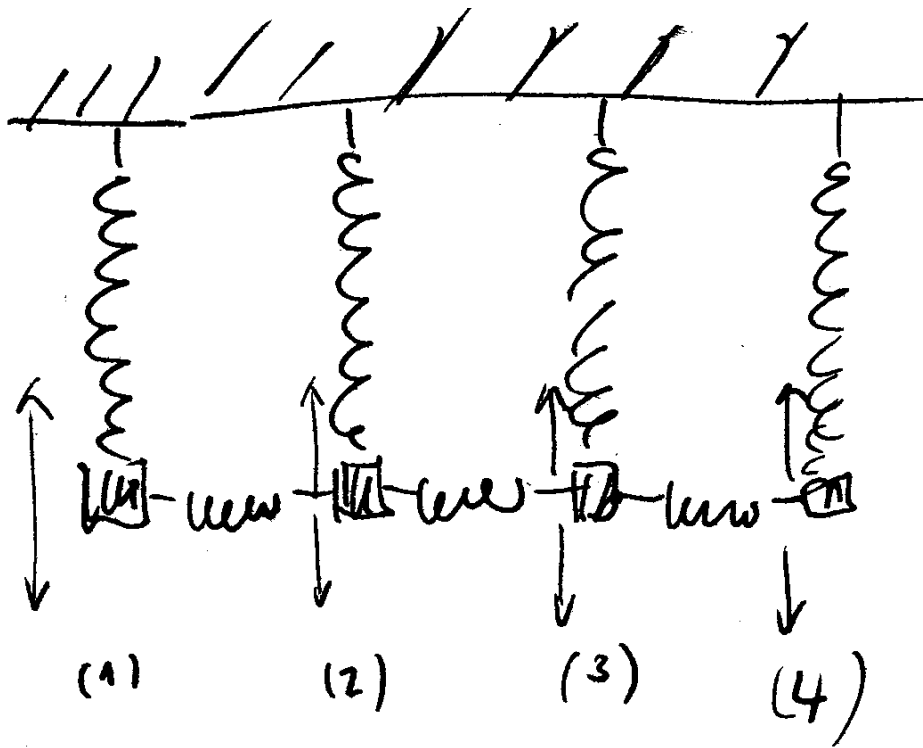


It can be described by a **phasor diagram**



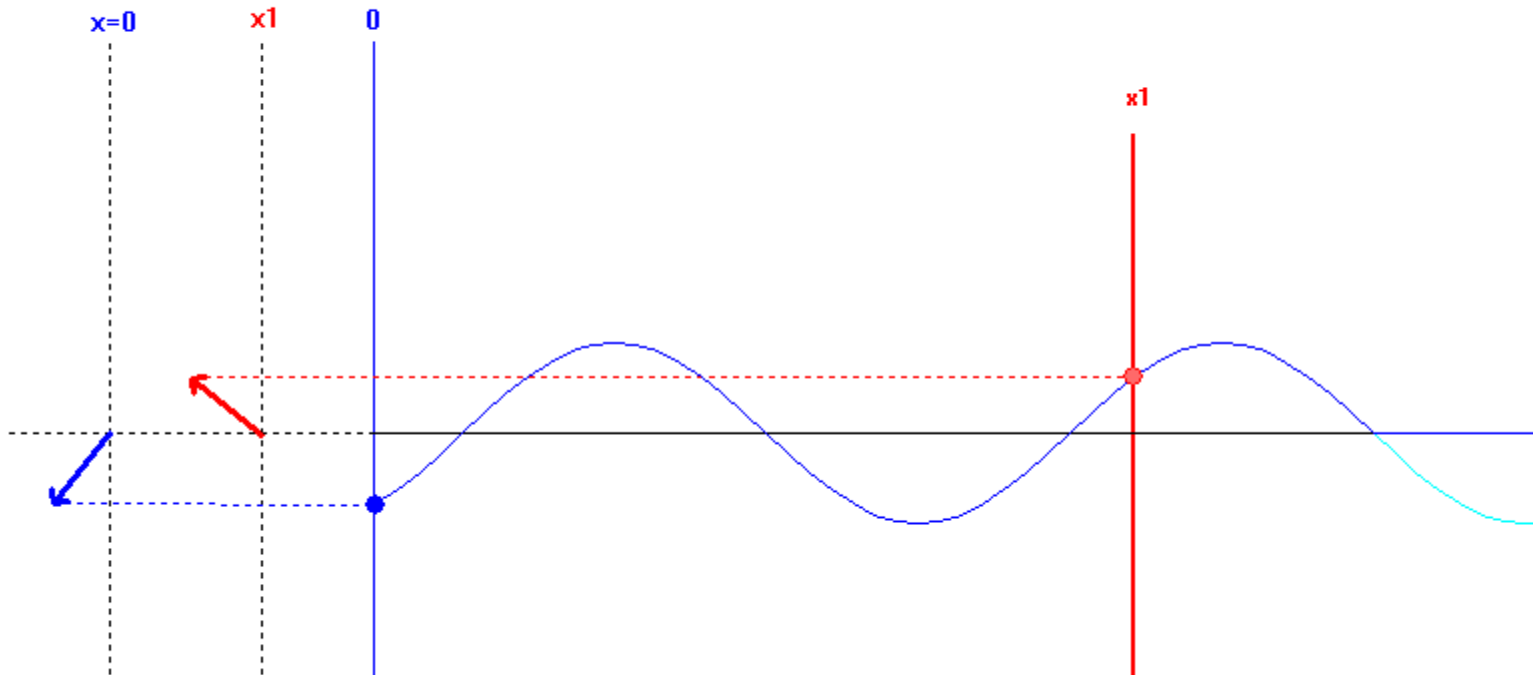
# A lot of identical oscillators,

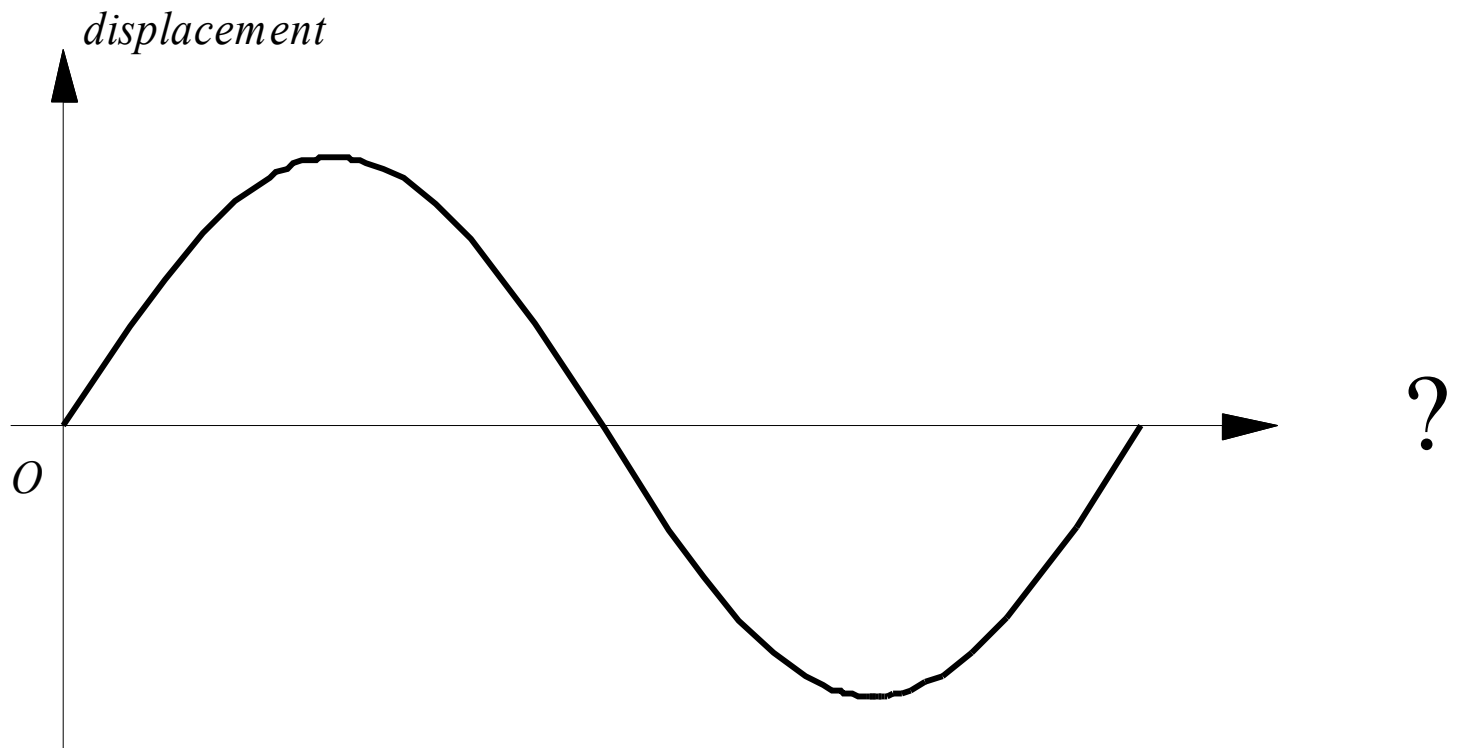
each elastically  
coupled to its  
neighbours:

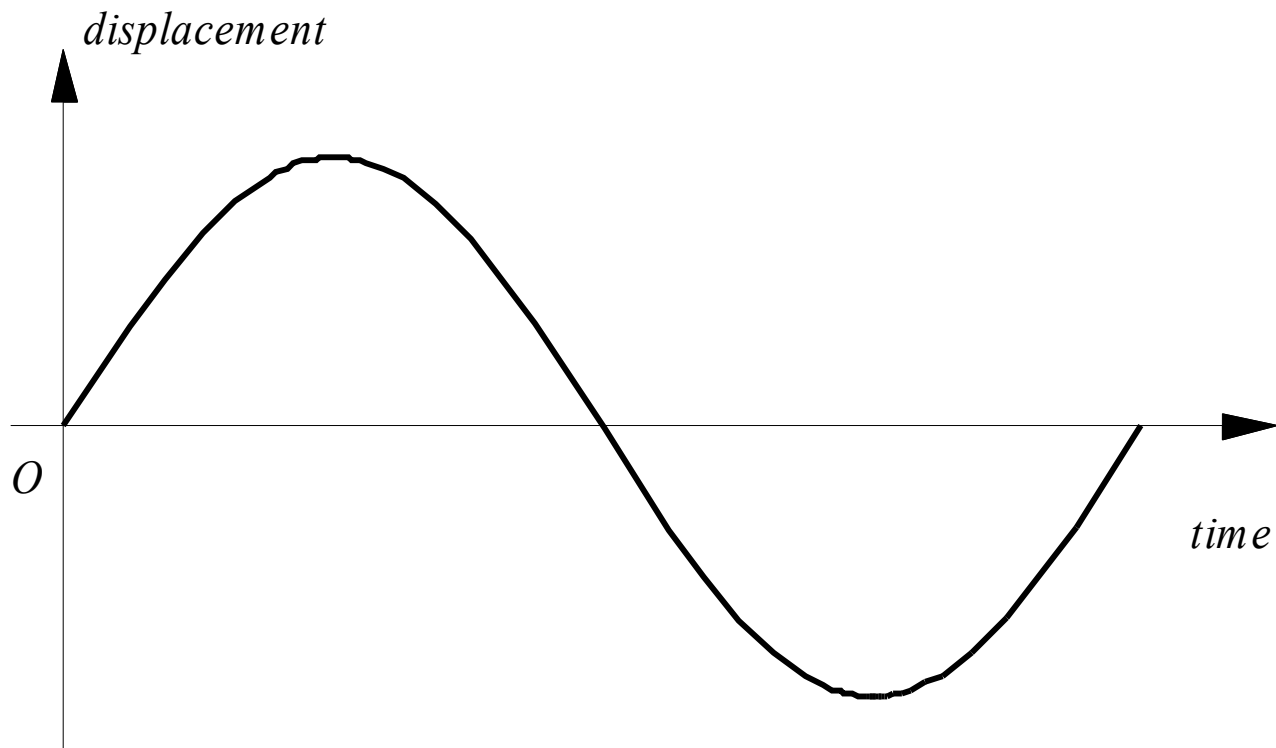


A disturbance will spread out -  
there is a **wave**

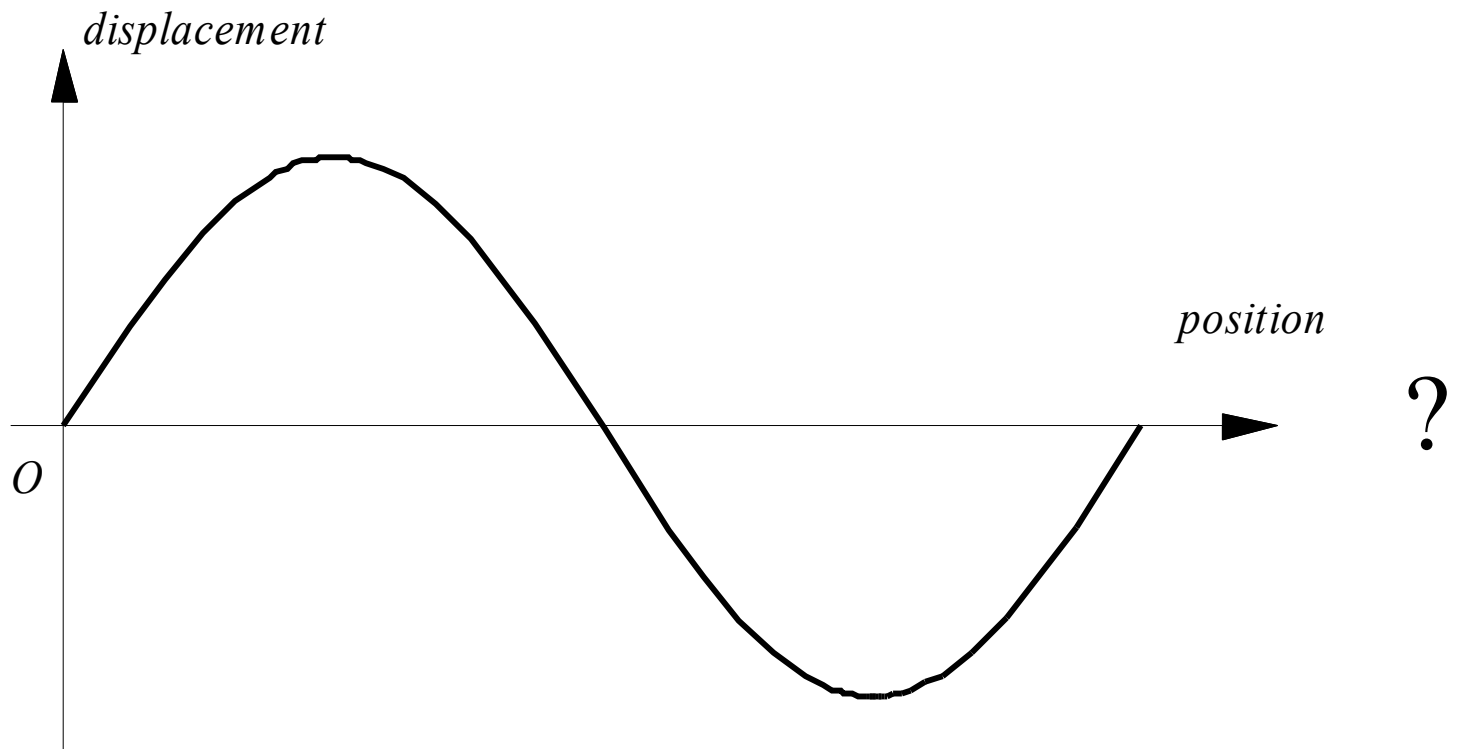
Assign a phasor to each oscillator and adjust the phase angle of each phasor:

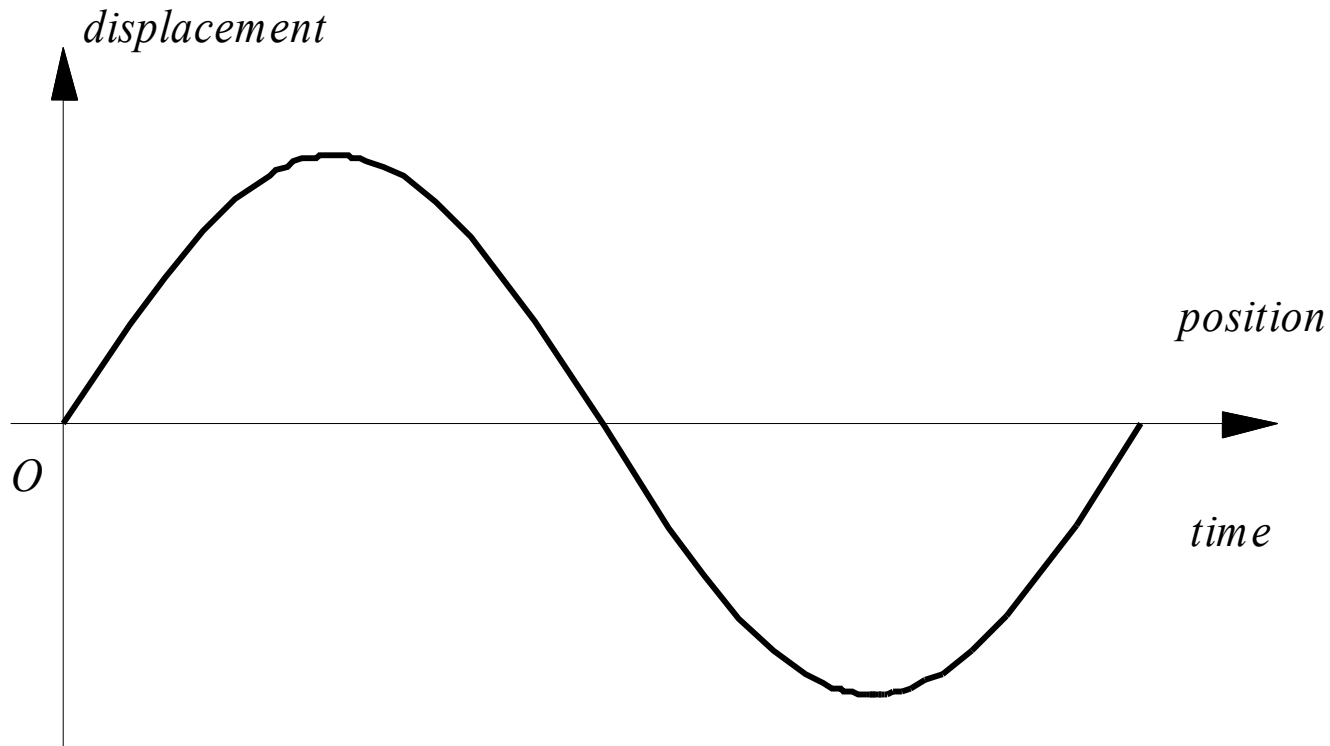






?





Waves are twice as difficult as oscillations  
(at least!)