

Group Velocity and Phase Velocity (1A)

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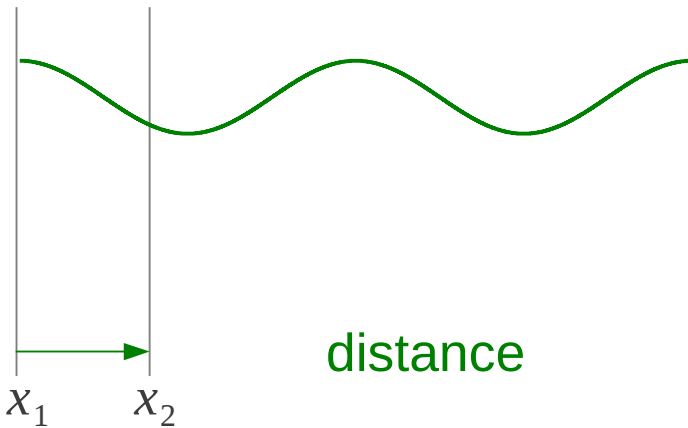
Wave Equation

$$A(x, t) = A_0 \cos(kx - \omega t)$$



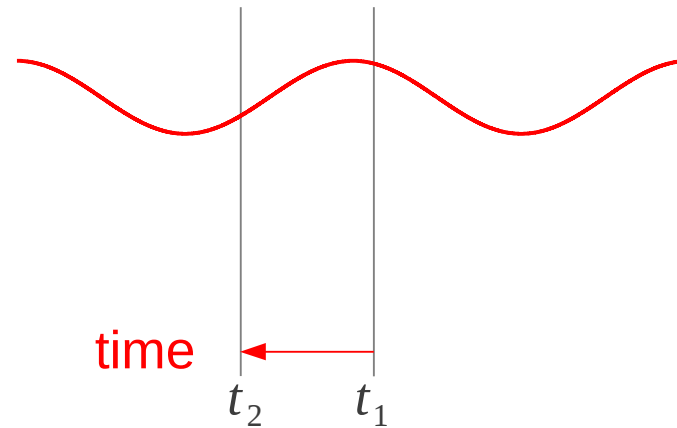
$$A_0 \cos(kx - \omega t_0)$$

At the snapshot of the time t_0



$$A_0 \cos(kx_0 - \omega t)$$

At the fixed site of the distance x_0



Group Delay

References

- [1] <http://en.wikipedia.org/>
- [2] J.H. McClellan, et al., Signal Processing First, Pearson Prentice Hall, 2003
- [3] <http://www.mathpages.com/>, Phase, Group, and Signal Velocity