

Background (DFT.A0)

Copyright (c) 2009, 2010 Young W. Lim.

Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

Please send corrections (or suggestions) to youngwlim@hotmail.com.

This document was produced by using OpenOffice and Octave.

Phasor

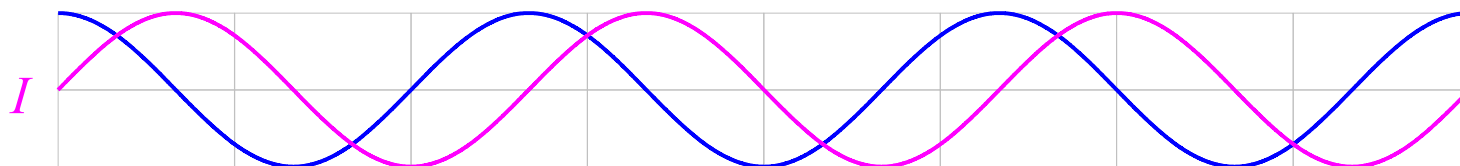
$$A \cos(\omega t + \theta)$$

$$A \cos(\omega t + \theta) = \Re \{ A e^{i(\omega t + \theta)} \}$$

$$= \Re \{ e^{i\omega t} \cdot A e^{i\theta} \}$$

$$A e^{i\theta}$$

$$A \angle \theta$$



3 cycles

Phasor

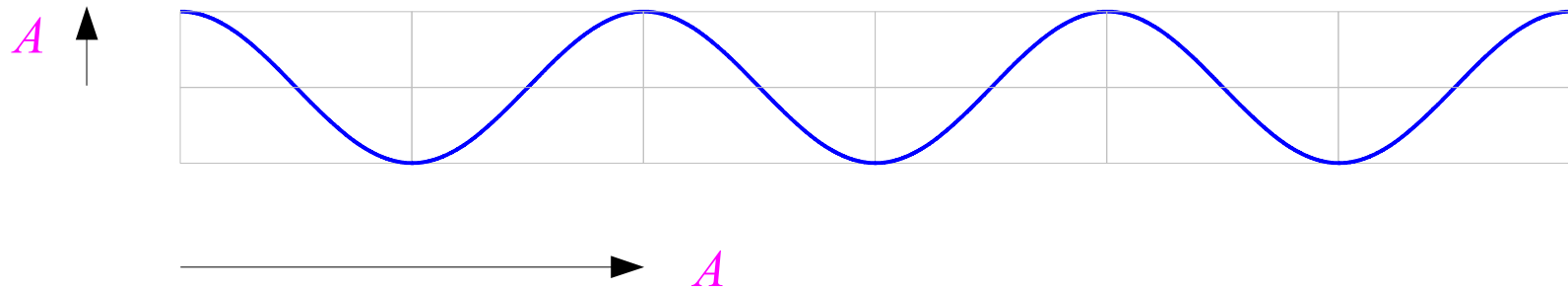
$$A \cos(\omega t + \theta)$$

$$A \cos(\omega t + \theta) = \Re \{ A e^{i(\omega t + \theta)} \}$$

$$= \Re \{ e^{i\omega t} \cdot A e^{i\theta} \}$$

$$A e^{i\theta}$$

$$A \angle \theta$$



References

- [1] <http://en.wikipedia.org/>
- [2] J.H. McClellan, et al., Signal Processing First, Pearson Prentice Hall, 2003