

# CORDIC Background (4A)

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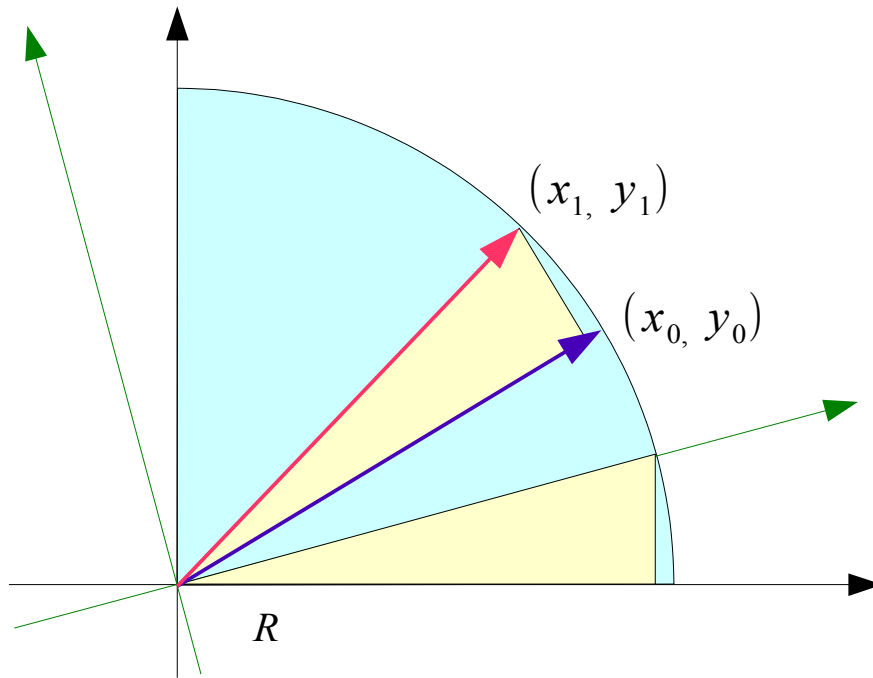
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# CORDIC Background

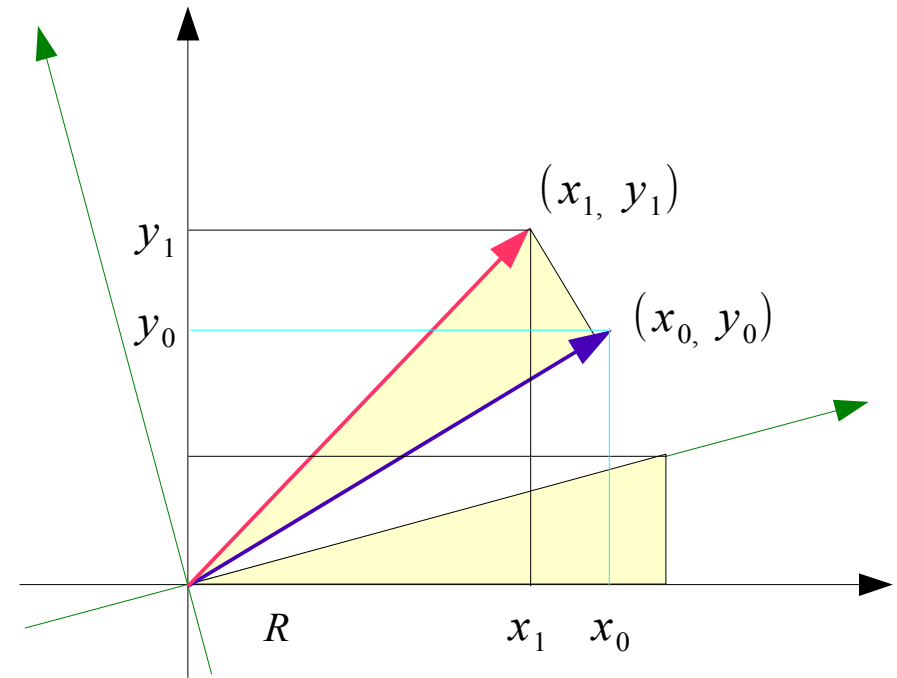
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J. P. Deschamps, G. A. Bioul, G.D. Sutter, Synthesis of Arithmetic Circuits

# Vector Rotation

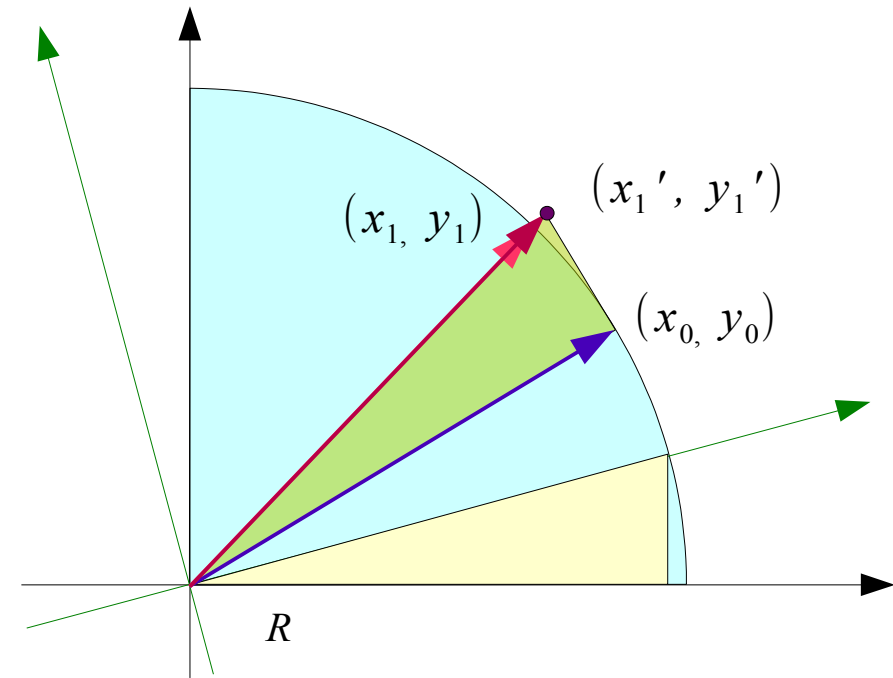
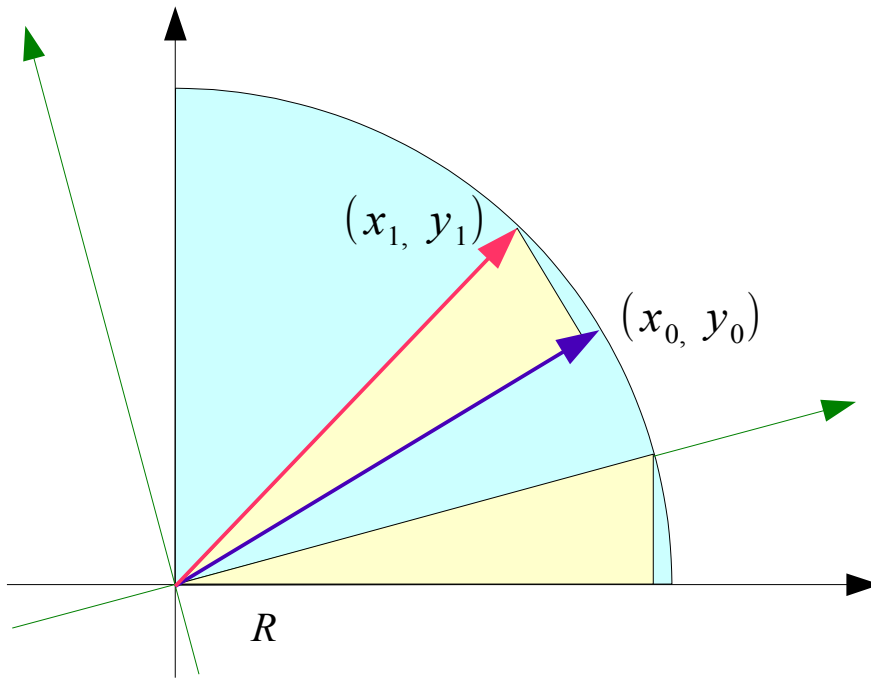


$$y_1 = x_0 \sin \alpha + y_0 \cos \alpha$$



$$x_1 = x_0 \cos \alpha - y_0 \sin \alpha$$

# Pseudo-rotation



# Unified CORDIC Iteration Eq

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## References

- [1] <http://en.wikipedia.org/>
- [2] CORDIC FAQ, [www.dspguru.com](http://www.dspguru.com)
- [3] R. Andraka, A survey of CORDIC algorithms for FPGA based computers
- [4] J. S. Walther, A Unified Algorithm for Elementary Functions
- [5] J. P. Deschamps, G. A. Bioul, G.D. Sutter, Synthesis of Arithmetic Circuits