

I learnt something in maths...

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Well -I might not have learnt much, but I did learn something about degrees and radians. So when I was reading the Apple documentation for CoreImage and I stumbled across a curious paragraph, I thought I better check it out.

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states: Listing 2-5 sets two input parameters—the input image and the input angle. Filters, except for generator filters, require an input image. Some require two or more images or textures. The input angle for the hue adjustment filter refers to the location of the hue in the HSV and HLS color spaces. This is an angular measurement that can vary from 0.0 to 2 pi. A value of 0 indicates the color red; the color green corresponds to $\pi/3$ radians, and the color blue is $2/3 \pi$ radians.

I was first alerted to the mistake in that the measurements go from 0 -> 2π , but in fact they had indicated two points that would appear in the first π radians, and nothing in the second half of the circle. Thinking this is weird I pulled out my handy copy of art directors toolkit to check. $\pi/3$ radians (60 degrees) is yellow, and not green, however $2/3\pi$ radians (120 degrees) is green and not blue.

In fact, apple has made the simple mistake of not thinking in 2π radian space. The values they are after are $2/3\pi$ radians for green and $4/3\pi$ radians for blue.

So it is with great joy, that I bring you this basic colour conversion table for the hue in an image.

Angle	Colour
0 rad (0 degrees)	Red
$\pi/3$ rad (60 degrees)	Yellow
$2/3 \pi$ rad (120 degrees)	Green
π rad (180 degrees)	Aqua blue
$4/3 \pi$ rad (240 degrees)	Blue
$5/3 \pi$ rad (300 degrees)	Pink
2π rad (360 degrees)	Red