Subject: Re: color value interpolation from colorbar
Posted by Jeremy Bailin on Sat, 06 Dec 2008 12:44:27 GMT
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On Dec 5, 10:50 am, "j.coe...@gmail.com" <j.coe...@gmail.com> wrote:
> I fixed the RGB plot and uploaded it to Picasa:
>
> http://picasaweb.google.com/j.coenia/ColorInterpolation?auth key=H9iPr...
>
> I will look into how the images were made. The colors were
> automatically overlaid on the images by the scanning equipment. Maybe
> I will have to contact the manufacturers.
>
> Someone has given me a brute force HSV color matching function. There
> is no curve fitting involved, but it seems promising. The text below
> is from the header notes:
>
> ; The input colors (sampled from the colorbar) are broken into blocks
> every n colors, and
> ; the extremes of H, S, and V are used to define a cube. All
> possible HSV-tuples
> ; within the cube are selected that correspond to possible colors in
> RGB space, which can
> ; optionally be reduced by a compression factor. The function
> returns a 3xn array of
> ; rgb triples corresponding to the INTERPOLATED colors in the reduced
> rgb colorspace
> ; (num of colors = (256/compression)^3 ).
>
> I'll post the results from this function soon, and I'll try to
> implement Peter's more elegant approach (next week?).
>
> Thanks again.

Looking at the new version, I think the R and G curves are broken lines, not single curves, in which case I'm not sure how well the methods that try to fit them to single functions (either polynomials, like Peter said, or power laws like Paolo suggested) will work. Maybe you could split the image points by intensity and do the linear method using either the lower part or the upper part separately, but you might well get artifacts for colours around the break point.

The good news is, if they really are broken lines then you can make a huge simplification to my algorithm - instead of using the entire colour bar, you can reduce it to 3 points: the bottom point, the break point, and the top point.

-Jeremy.