

Why it makes no sense to use  
Halp $\alpha$  for luminance for a  
tricolor emission line image

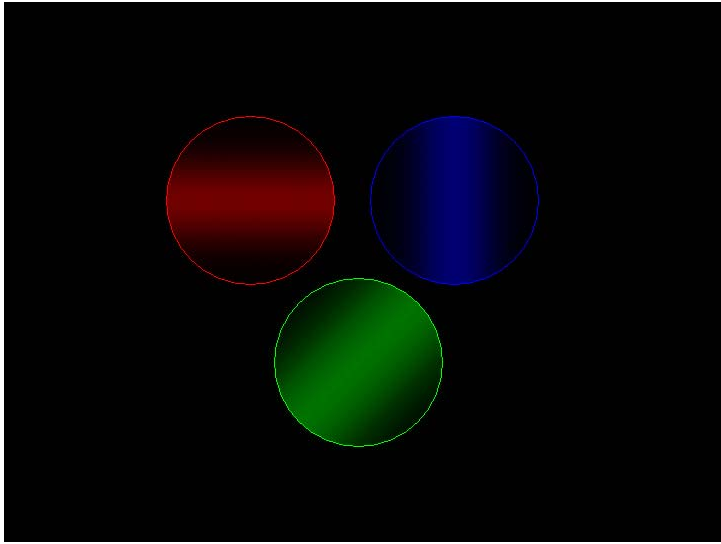
R.D. Crisp

28 July 2009

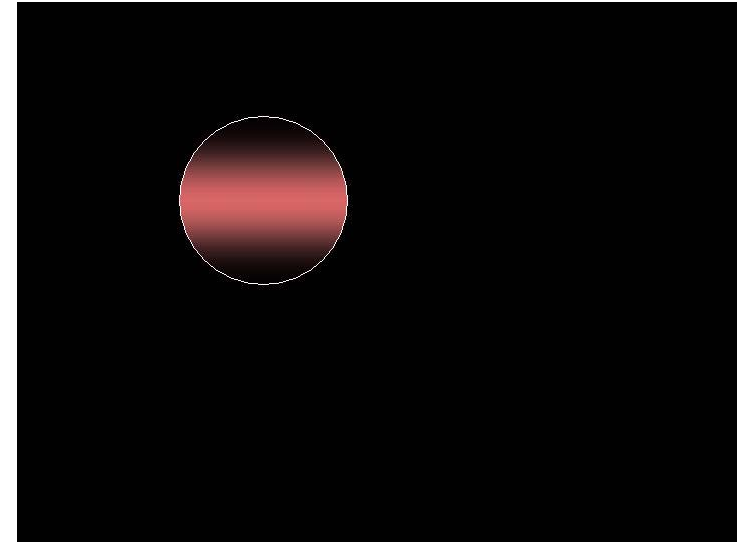
[www.narrowbandimaging.com](http://www.narrowbandimaging.com)

# Luminance operation

- Adding luminance layering above an image essentially performs the logical AND of the image data with the luminance “mask”.
- Where there is both luminance data and image data, the image survives. Where either is lacking, the image is attenuated to the degree of the luminance applied: 100% luminance means 100% extinction if there’s no signal below the luminance.
- See the two following pages: first uses one channel only for luminance (equivalent to Halpha in an Ha/S2/O3 image) the second uses all three colors as luminance; equivalent to using clear data for luminance

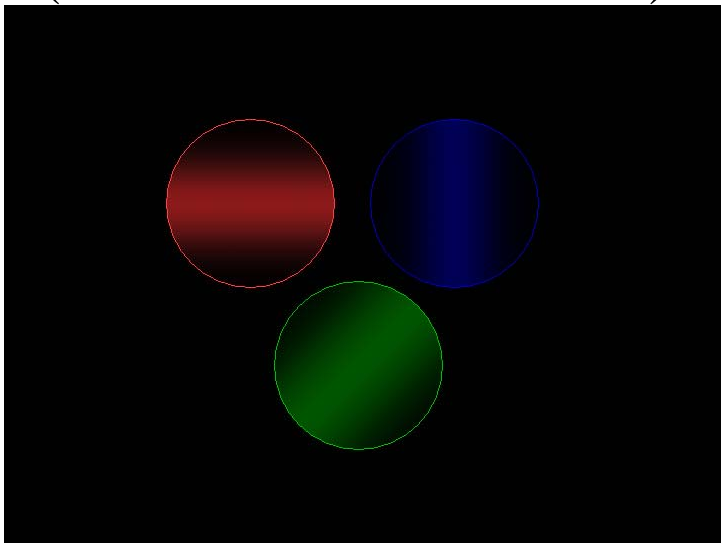


0% luminance  
(red used for luminance)

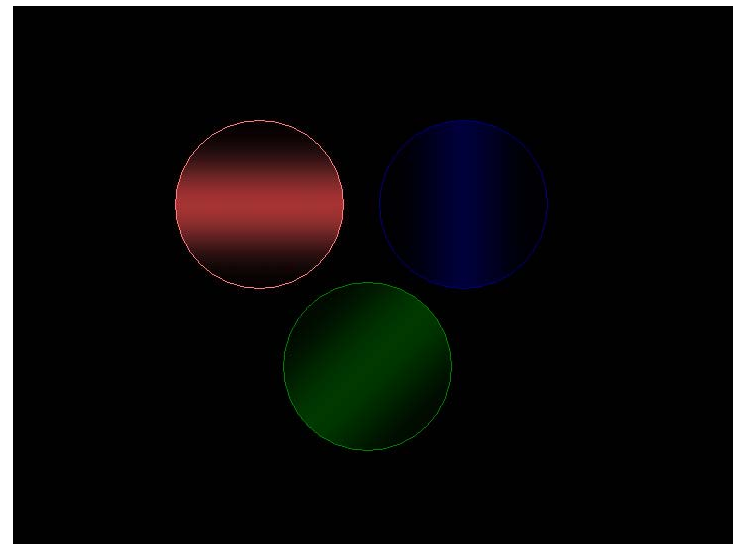


Red used as Lum

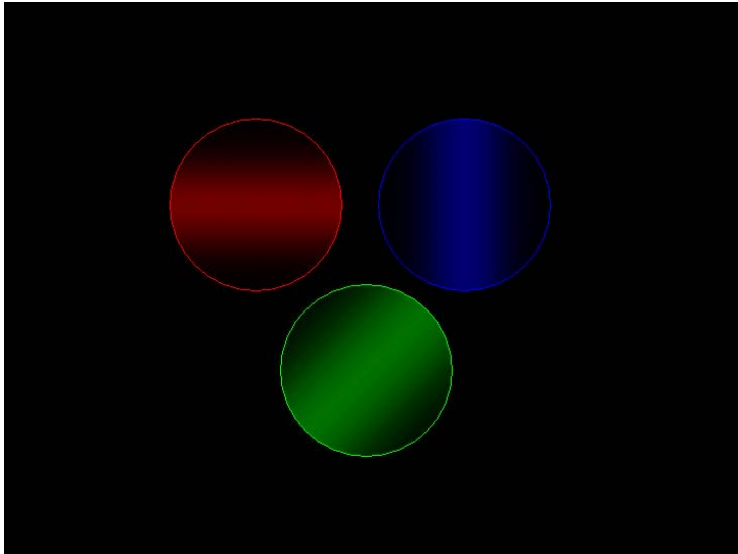
100% luminance  
(red used for luminance)



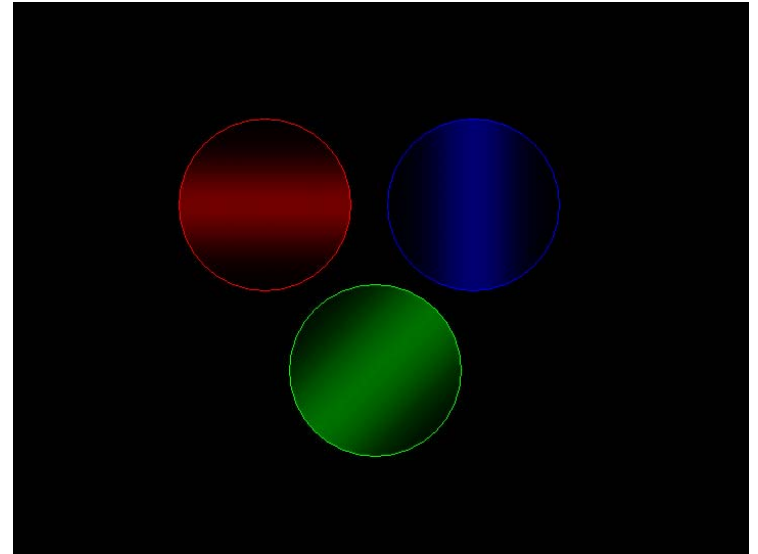
25% luminance  
(red used for luminance)



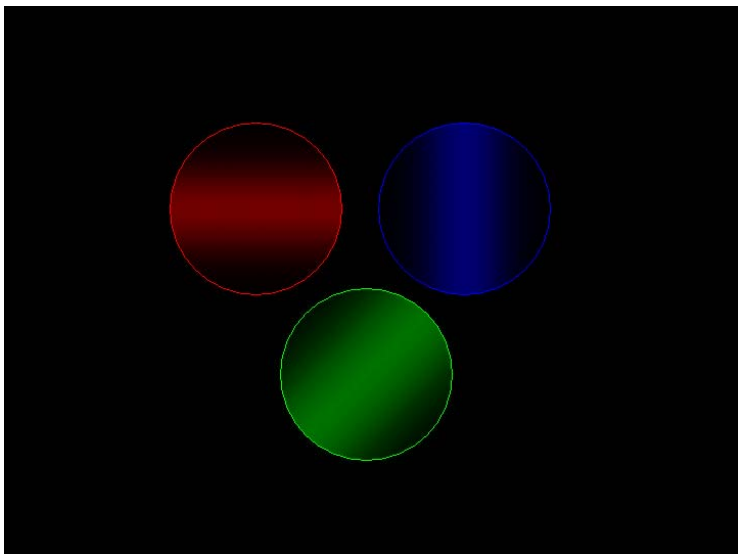
50% luminance  
(red used for luminance)



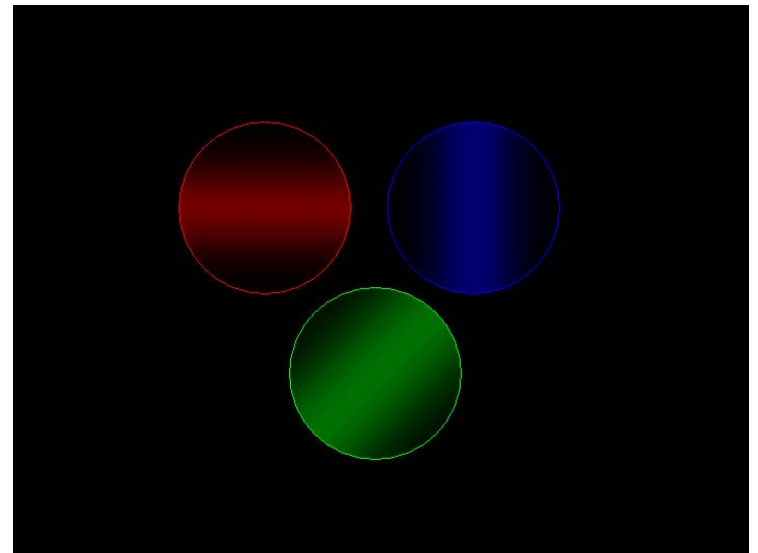
0% luminance  
(RGB used for luminance)



100% luminance  
(RGB used for luminance)



25% luminance  
(RGB used for luminance)



50% luminance  
(RGB used for luminance)

RGB used as LUM