rgb2ntsc

Convert RGB values to NTSC color space

Syntax

```
yiqmap = rgb2ntsc(rgbmap)
YIQ = rgb2ntsc(RGB)
```

Description

`yiqmap = rgb2ntsc(rgbmap)` converts the `m`-by-3 RGB values in `rbgmap` to NTSC color space. `yiqmap` is an `m`-by-3 matrix that contains the NTSC luminance (*Y*) and chrominance (*I* and *Q*) color components as columns that are equivalent to the colors in the RGB colormap.

`YIQ = rgb2ntsc(RGB)` converts the truecolor image `RGB` to the equivalent NTSC image `YIQ`.

Remarks

In the NTSC color space, the luminance is the grayscale signal used to display pictures on monochrome (black and white) televisions. The other components carry the hue and saturation information.

`rgb2ntsc` defines the NTSC components using

$$\begin{bmatrix} Y \\ I \\ Q \end{bmatrix} = \begin{bmatrix} 0.299 & 0.587 & 0.114 \\ 0.596 & -0.274 & -0.322 \\ 0.211 & -0.523 & 0.312 \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix}$$

Class Support

If the input is an RGB image, it can be of class `uint8`, `uint16`, or `double`; the output image is of class `double`. If the input is a colormap, the input and output colormaps are both of class `double`.

See Also

ntsc2rgb, rgb2ind, ind2rgb, ind2gray