

Extinction correction

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We make use of [Schlafly and Finkbiner 2011](#) (S&F thereafter).

0.1 Color correction

The recommended extinction correction in each color stated in the intro is:

$$E(B - V) = 0.86 E(B - V)_{SFD} \quad (1)$$

where the LHS would be the interpolated values,
the RHS would be the [Schlegel 98](#) value

$$R_{a-b} = \frac{E(a - b)}{E(B - V)_{SFD}} \quad (2)$$

with

$$R_{a-b} = \begin{cases} 0.98 \pm 0.02 & \text{for g - r} \\ 0.55 \pm 0.01 & \text{for r - i} \end{cases} \quad (3)$$

From table 3 of S&F 2011

0.2 Magnitude correction by bandpass (appendix of S&F)

Below Table 6 on p. 12 S&F gives the

$$\Delta m_b / E(B - V)_{SFD} = \begin{cases} 3.303 & \text{g band} \\ 2.285 & \text{r band} \\ 1.698 & \text{i band} \end{cases} \quad (4)$$

which I believe stands for

$$\Delta m_b = m_{obs} - m_{true} \quad (5)$$

but these are for SDSS bands

An online tool that one can use instead of writing these out is at [this website](#).

1 begin reading in the different color / band data

In [1]:

In []: