

Transformation of Extinction Values near the K-Band

Sungsoo S. Kim

Kyung Hee University, Dept. of Astronomy and Space Science

We calculate theoretical isochrones in a consistent way for five filters near the K-band, K, K', K_s, F205W, and F222M. Even when displayed in the same Vega magnitude system, the near-infrared colors of the same isochrone can differ by up to 0.18 mag at its bright end, depending on the filter. We analyze isochrones for several different extinction values, and find that a care is needed when comparing extinction values that are estimated by different filter sets, in particular when comparing those between atmospheric and space filter sets. To alleviate this problem, we present an "effective extinction law" for each filter set and isochrone model, which describes extinction behaviour of isochrones in the observed color-magnitude diagram.