

Re: Is camera response needed for HDR based upon multiple exposures ?

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Stacking frames with different time exposures, by simple averaging, maximizes signal to noise ratio under the assumption of an additive white noise model with constant variance, and it is not necessary to know the variance or $f(E)$.

Correction:

The noise variance is constant within a single frame and frames of equal time exposure, but not between frames of different exposure times. In this model, it is assumed that the noise variance is proportional to the exposure time.