Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Pseudo-bolometric calibration of IIP Supernovae using Unfiltered Photometry GOVINDA DHUNGANA, ROBERT KEHOE, Southern Methodist University — Type IIP supernovae are the most frequent Core Collapse supernovae. These events seem to occur from progenitors of mass $M \sim 8 - 20 M_{\odot}$ that are able to retain their hydrogen envelop throughout their life. Their luminosity rises rapidly to peak soon after the shock breaks out, with the most contribution coming from UV photons (up to 80%). The post-peak phase is followed by a characterstic photospheric plateau/recombination phase that normally lasts for ~ 100 days. This phase is contributed by the optical photons in the most part. Because of such homologously expanding ejecta in a long duration photospheric phase, IIPs have been used as accurate cosmological distance probes using the Expanding Photospheric Method (EPM). Bolometric properties of such events is not only crucial for the EPM analysis, but also to extract explosion kinematics. We present an emperical calibration of pseudo-bolometric light curve for some well observed IIPs using open CCD (*clear*) and broadband data. We show that a direct comaparison of *clear* flux with integrated $BVRI$ flux yields $\sim 13\%$ residual, while a color dependent calibration yields better than 2% residual. From this calibration, we derive the pseudo-bolometric lightcurve for events that lack filtered photometry.

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Date submitted: 26 Sep 2014 Electronic form version 1.4