

Abstract Submitted  
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**Type Ia supernova radiation examined in the framework of Thomson scattering** DAVID W. KRAFT, University of Bridgeport — The apparent dimming of radiation emitted in Type Ia supernovae explosions has been interpreted as evidence for an accelerated expansion of the Universe and the 2011 Nobel Prize in Physics was awarded for this work. However, alternative explanations have also been proposed so it is possible that action by the Nobel Committee may have been premature. We discuss here one such alternative, namely the effects of Thomson scattering of the supernova radiation. Specifically the observed distances to supernova objects are corrected for the Thomson scattering of their radiation photons by free electrons in their path. Previous work has shown that an independent estimate of the free-electron density in a dark intergalactic plasma provides close agreement of the corrected distances with predictions of the luminosity-distance relation. Hence the apparent dimming of Type Ia supernova objects can be understood without recourse to cosmic acceleration and cosmic jerk. The present work includes additional data for the high- $z$  regime.

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