

# The existence of Dark Energy is moot because the Universe is not expanding

**Dark energy thought to be the cause of an expanding Universe is moot because cosmic dust is shown to produce the Hubble redshift measurements without the Universe expanding**

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*PRLog (Press Release) – Jun 08, 2009 – Background*

In 1929, Edwin Hubble formulated a law that the velocity of a receding galaxy is proportional to its distance to the earth. This meant that a galaxy moving away from us twice as fast as another galaxy is twice as far away. Hubble based his law on Doppler's effect whereby the wavelength of light from the galaxy is redshift or increased if the galaxy is moving away from us. Thus, by measuring the redshift of known spectral lines in the galaxy light, Hubble claimed to estimate the recession velocity of the galaxy relative to the Earth.

Today, astronomers take Hubble's Law as proof the Universe is expanding based on the redshift measurements of Supernova light. However, redshift by a mechanism other than an expanding Universe would make dark energy moot because if the Universe is not expanding there then would be no need for dark energy.

## Theory

QED induced EM radiation asserts Supernova light is redshift by absorption in cosmic dust particles (DPs). QED stands for quantum electrodynamics and EM for electromagnetic. Depending on the DP geometry and material, the redshift  $Z$  is spontaneous upon the absorption of light. QED induced redshift only depends on the absorption of a single Supernova photon in a DP and not upon the Universe expanding.

Fundamental in QED induced radiation is the absorption of the EM energy of the Supernova photon proceeds without an increase in DP temperature. Classically, absorbed EM energy by a body is conserved by an increase in temperature, but this is not allowed in sub-micron DPs because quantum mechanics (QM) requires the specific heat to vanish. Instead, conservation proceeds by QED induced redshift to the EM confinement wavelength of the DP and then is promptly emitted as a redshift photon.

QED induced redshift may be understood by treating the absorbed Supernova photon as EM energy confined with the DP. Recall that photons of a given wavelength may be created by supplying EM energy to a QM box with walls separated by half that wavelength. In a spherical DP of radius  $a$ , the QED photons are produced at a wavelength of  $4an$ , where  $n$  is the index of refraction of the solid DP material. Typically, the DPs are amorphous silicate having  $n = 1.45$ . For DP radii from  $a = 0.005$  to  $0.25$  microns, the H-alpha and Ly-alpha lines in the Supernova light are upper bound at redshift of  $Z = 1$  and  $5$ , respectively. If the QED induced redshift is interpreted by Hubble's law, the upper bound velocity of the Supernova would be  $60$  and  $95\%$  of the speed of light when in fact the Universe is not expanding. See [www.nanoged.org](http://www.nanoged.org) at "Dark Energy and Cosmic Dust" and "Reddening and Redshift," 2009.

## Conclusions

Given that Supernova light is unequivocally absorbed by DPs on its way to the Earth, the measured Hubble redshift  $Z$  is most likely caused by DPs and has nothing to do with an expanding Universe. Cosmic dust therefore makes moot the existence of dark energy because it is no longer necessary in non-expanding Universe.

Cosmic dust also holds in question the Hubble redshift as the first and only proof that the Universe began with the Big Bang suggesting the new cosmological paradigm adopted at the forthcoming [Invisible Universe Conference](#) in Paris should be a return to Einstein's static Universe in dynamic equilibrium.

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About QED induced Radiation: Classically, thermal EM radiation conserves heat by an increase in temperature. But at the nanoscale, temperature increases are forbidden by quantum mechanics. QED radiation explains how heat is conserved by the emission of nonthermal EM radiation.