XPXP "SHORTS" Wavelength of light

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These short statements provide evidence, in simple terms, of some of the basic elements of the XPXP model. More detailed explanations may be found in the videos and papers in the web site.

DOES THE XPXP EXPRESSION FOR AN ELECTROMAGNETIC WAVES CORRESPOND TO THAT OF THE λCDM MODEL?

Compare λCDM and XPXP**:**

λCDM :

Figure 1. a λCDM (electromagnetic) light wave emitted from a light source (constant light speed in an unaccelerated universe)

$\lambda_0 = c \cdot T$ where $T = \text{period} = 1/\nu$

An important relationship in the λCDM model is

$\lambda_0 \cdot \nu = c$ where: λ_0 = wavelength at source

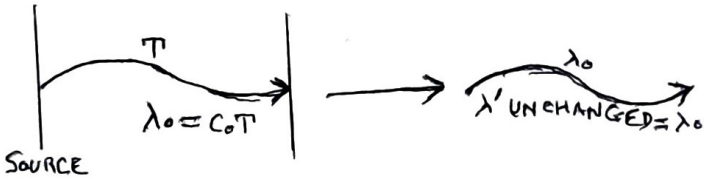
ν = frequency

c = constant light speed

All waves have a certain frequency, with an associated wavelength. In the λCDM model, the product of the wavelength and frequency is believed to be light speed. This relationship is unquestioned, and is used in many branches of science.

The relative motion of the source and the detector determines any increase or contraction of the wave in the λCDM . During its time of flight the wave remains unchanged (see Figure 1.). But when received, the wave will show a difference in length. This principle is the Doppler shift, and for very high speeds the effect becomes the "relativistic Doppler shift".

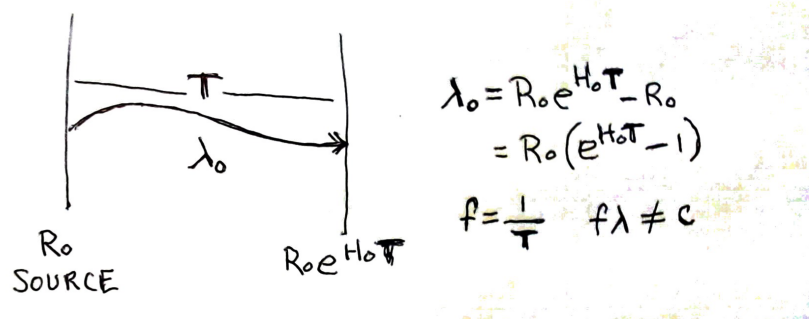
Figure 1.



XPXP:

An electromagnetic wave emitted in the XPXP model expands exponentially during its time of flight, and can be described as shown in Figure 2. This should approximately conform with that of the λCDM model.

Figure 2. An emitted light wave expands according to the H/L law:



From Figure 2, the basic XPXP equation for wavelength:

$$\lambda_0 = R_0 (e^{H_0 \tau} - 1)$$

A MacLaurin approximation (See "MacLaurin expansion") yields

$$\lambda_0 = H_0 R_0 \tau + 1 - 1 \approx c_0 \tau$$

Therefore, according to the XPXP model, the wavelength equation in the λCDM model is an approximation of the true wavelength.

λ_0 expands during its "time of flight" by e^Hot , where t = "time of flight"