James Webb Little Red Dots

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Here is the author's model of some phenomena related to red-shifting in astronomy.

Little Red Dots

What about the Little Red Dots (LRDs) seen in James Webb? Does light red-shift from an expanding universe? The author would argue that light shows increasing red-shift with distance by two causes not involving expansion or the photons slowing down (tired light theory).

First, light photons reaching observer cover a certain amount of angular arc across the sky. We don't see a single stream of photons of any star in the universe, we see many streams of photons from each star. As objects get farther away, this arc decreases. At a certain point, the wavelength of the light is longer than the distance between waves and the waves begin to interfere with each other. This produces two effects. First, the light red-shifts. Second, the image loses focus. Distant LRDs of Webb are not galaxies that make them fuzzy. They are out of focus light sources that make them fuzzy.

Second, light photons have interference from other photons from other light sources. The universe is a monodispersion of stars except for galaxies. This monodispersion provides a uniform broadcast of light about the universe which warms the universe at 3 Kelvin, the named Cosmic Microwave Background (CMB). This broadcast means all points get light from everywhere at once and their interference creates an additional electromagnetic radiation response (the CMB). The further photons travel to an observer the more interference occurs that red-shift and attenuates the light (diminishes brightness).

Light Red-Shifting

Does it require motion to get a red-shift affect from light? No. From the author's work studying mineral infrared spectroscopy the infrared response region for any mineral has a highest wavenumber position that is linearly correlated to its refractive index itself defined by not combining all minerals, but breaking them into basic compositionally similar groups. These groups are silicas, silicates, carbonates, sulfates, zeolites, metal oxides, and metal sulfides. With this basic grouping scheme, the wavenumber position of the infrared response becomes clear that it is controlled by refractive index of that mineral. Not only that, but the infrared spectral response shows each light component individually as the s-wave and p-wave, so there are two response maxima wavenumbers.

This means that as the density of a minerals in a group increase, their refractive index increases, while their response maxima move to lower wavenumbers. The movement to lower wavenumbers is a red-shift.

So-called Wave Properties of Light

Light properties that science claims are "fundamental" such as "wave" properties only can be observed when light is affected by the electric field of the matter it interacts with. In mineralogical infrared this is incidence into the matter several microns and reflection out based on the mineral lattice (crystal) orientation encountered, which is its electric field orientation. Massive specimens are just multiple crystallite fragments, so the infrared response is then blended based on the most orientations of grain lattices encountered. For the double slit experiment, you see no wave response unless the slit is narrower than half the wavelength of the impinging light source, which means the experimenter is forcing the photons to interact with the electric field of the matter in which the slit occurs.

We therefore know nothing about fundamental properties of light. What we know is that when light encounters matter, the response is a wave response by the photons. This does not show it is a fundamental property of light. It shows that it is an induced property of light.