

Cosmic Microwave Background Radiation (CMBR) from collapsing galaxies instead of the Big Bang?

The Sunyaev-Zeldovich Effect (SZE) showing the CMBR is virtually identical to the emission from collapsing cluster galaxies is proof galaxies are the source of the CMBR long thought produced by the Big Bang

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Collapsing cluster galaxies are implosions producing extremely energetic electrons at temperatures of about 108 K. Astronomers believe CMBR photons passing through the collapsing galaxies gain energy by collisions with these electrons and blue-shift by the inverse-Compton effect. Measurement of CMBR in the direction of a cluster of galaxies shows a measurable, but almost imperceptible distortion called the SZE. See e.g., astro.uchicago.edu/sza/primer.html

In fact, the SZE shows the microwave emission from collapsing cluster galaxies from 20 to 1000 GHz is virtually identical to the background CMBR. The SZE spectrum shows a decrease in the CMBR intensity at frequencies lower than around 218 GHz with an increase in intensity at higher frequencies. Although electrons at 108 K emit X-rays, the thermal distortion of the CMBR is only of the order of one-thousandth of a Kelvin in temperature. At a given frequency, the SZE intensity varies in brightness in proportion to the mass distribution within the cluster. The SZE is usually only associated with massive objects such as clusters of galaxies, i.e., a single galaxy has insufficient mass to cause measurable distortions in the CMBR.

However, the most remarkable feature of the SZE is its brightness is independent of redshift Z

Discussion

Standard cosmology finds difficulty in explaining the independence of the brightness of the SZE with Z . The SZE brightness during implosive cluster collapse should be no different than that from the explosive Supernova (SN) Type 1a expansion known to be proportional to Z . In fact, any time variation of light in any form including brightness of the SZE should be proportional to $1/(1+Z)$. See Weinberg, *Gravitation and Cosmology*, 1972 and Blondin et al. at www.astro.ucla.edu/~wright/tiredlit.htm. But why the SZE is not proportional to Z means cluster galaxies do not for some reason follow the standard cosmology of redshift in an expanding Universe.

Opinions are diverse of why this is so. Some astronomers think there is no redshift in the SZE because the inverse-Compton process based on scattering does not produce redshift. However, this cannot be correct because the CMBR photons are not redshift, but rather are blueshift in the SZE. In fact, the redshift measured in the SZE can only be caused by the optical and X-ray emission from the cluster galaxy collapse. The question may be asked:

Why do the explosive SN show redshift proportional to their magnitude while the implosive collapsing cluster galaxies do not show proportionality of the SZE to redshift?

In alternative cosmology, the question for collapsing galaxies may be answered by QED induced redshift of absorbed optical and X-ray photons in cosmic dust particles (DPs). Similar arguments have been made to explain the redshift from SN explosions. See www.nanoqed.org and www.scienceblog.com/cms/blog/8209-redshift-cosmic-dust-trumps-hubble-and-tired-light-theories-26678.html

By QED induced redshift in DPs, there is no conceptual difference between the Z of an exploding SN and an imploding cluster galaxy as both emit optical and X-ray photons that are absorbed in DPs. The DPs may be in or near the explosions or implosions including those distantly disposed in the light path to the observer. The only difference is the SN produce DPs that are proportional to the dust emission or magnitude of the SN explosions. In contrast, implosive cluster galaxy collapse does not produce DPs because temperatures in excess of 10⁸ K preclude any dust formation. See nedwww.ipac.caltech.edu/level5/March02/Sarazin/Sarazin5_8_3.html. The Z in collapsing clusters is therefore independent of the SZE intensity because the absorption of optical and X-ray photons takes place in DPs removed from the collapse that are still in the light path to the observer.

CMBR from collapsing Galaxy Clusters

The SZE shows the microwave emission from cluster galaxy collapse from 20 to 1000 GHz is virtually identical to the background CMBR, and therefore it is reasonable to conclude that the cluster galaxies throughout the Universe are continuously producing the CMBR long thought by astronomers to be the relic of the one-time Big Bang some 14 billion years ago. In fact, the CMBR as the relic of the Big Bang can only be correct if the SZE showed a significant increase or decrease relative to the background CMBR.

But confirmation requires the SZ Array (SZA) to show the SZE is uniform throughout the Universe. See astro.uchicago.edu/sza/primer.html Significant increases or decreases in the SZE may be found to support the Big Bang as the source of the CMBR. However, given our current knowledge of the SZE, the SZA is likely to show collapsing cluster galaxies having insignificant SZE do indeed cover the sky everywhere thereby confirming the CMBR from the Big Bang is nothing more than that from collapsing cluster galaxies in the past and present epochs.

Conclusions

1. The SZE provides an important technique to assess the importance of how the CMBR was formed – whether in the one-time Big Bang or continually produced by collapsing cluster galaxies in the present and prior epochs.
2. Standard cosmology cannot explain why the redshift in collapsing cluster galaxies is not proportional to the magnitude of the implosion.
3. Alternative cosmology based on QED induced redshift of optical and X-ray emission upon absorption in DPs explains both collapsing cluster galaxies and Supernova explosions.
4. The redshift in collapsing cluster galaxies is not proportional to the magnitude of the implosion because DPs cannot form in the high temperatures. In contrast, Supernovae explosions do produce DPs in proportion to the mass ejected.
5. The SZA map is likely to show the CMBR in the microwave region from 20 to 1000 GHz is virtually identical to the emission from collapsing cluster galaxies throughout the Universe. However, similar maps of optical and X-ray emission from the collapsing galaxies would also be highly desirable.

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About QED induced Radiation: Classically, absorbed thermal EM radiation as heat is conserved 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

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