Redshift in cosmic dust resolves the galaxy rotation problem without dark matter and MOND

Resolution of the galaxy rotation problem by redshift in cosmic dust allows cosmology to proceed by Newtonian mechanics without the need for dark matter or Modified Newtonian Dynamics (MOND).

Nov. 17, 2009 - *PRLog* -- **Background**
The Tully-Fisher relation based on Newtonian mechanics requires the rotation velocity of spiral galaxies to vary inversely with the square root of the distance from the galactic center. See http://www.scholarpedia.org/article/Tully-Fisher_relation However, observations of galaxy rotation velocities obtained with the Doppler shift show the velocity is nearly constant with distance suggesting the presence of a substantial amount of dark matter in a halo surrounding the galactic center. See http://en.wikipedia.org/wiki/Galaxy_rotation_curve

Dark matter halos are an important feature of the Lambda Cold Dark Matter (LCDM) model of the Universe, but dark matter lacks experimental verification, and remains an unsolved problem in physics. The question may be asked:

Is dark matter responsible for the difference between galaxy rotation velocities given by Newtonian mechanics and those observed, or is there another explanation?

MOND
MOND asserts the galaxy rotation problem may be resolved by assuming the physics of gravity changes at the large scale allowing rotation velocities in galaxies to remain constant with distance from the galactic center instead of decreasing as required by Newtonian mechanics. But like dark matter, MOND lacks experimental verification. Moreover, MOND requires motions of galaxies around a galactic center, and therefore fails to explain the collapse of cluster galaxies having motion emanating from other points. See Clowe, et al. *ApJ Letters*, 648, L109, 2006 in http://en.wikipedia.org/wiki/Modified_Newtonian_dynamics. However, the failure of MOND to explain collapsing galaxies is not proof dark matter exists, as other explanations are possible.

Redshift in Cosmic Dust
Redshift in cosmic dust claims the galaxy rotation problem is caused by Doppler shift and is resolved by replacing the latter with a theory called QED induced radiation. See “Dark Energy and Cosmic Dust” at http://www.nanoqed.org By this theory, the validity of the Doppler shift as the measure of velocities in the Universe is held in question by the redshift that accompanies the absorption of light in submicron dust particles (DPs). It is important to note that the redshift upon the absorption of light in DPs differs from scattering in that the latter does not redshift light. The impact of DPs on velocity measurements in cosmology is significant in that the very first redshift measurements by Hubble giving recession velocities of galaxies are refuted leaving the notion of an expanding Universe without experimental verification. Astronomers are therefore required to find other ways of proving Universe expansion or abandon the cosmology of the expanding Universe including the Big Bang. No matter how unpleasant these options may be, the fact remains the Universe is only observed by light, and therefore the significance of absorption of galactic light by cosmic dust may by default require astronomers to return to the cosmolog of a static Universe once proposed by Einstein.

Indeed, the redshift measurements by Hubble and interpreted by the Doppler shift were most likely caused by QED induced redshift and have nothing to do with the recession velocities of galaxies. In fact, cosmological events that produce large amounts of debris have large redshifts because of the proportionality of submciron DPs that form to the debris produced. In this regard, QED induced redshift of

galaxy light in DPs observed by Hubble may be almost insignificant compared to the large quantities of DPs produced in Supernovae Type 1a explosions. See http://www.scienceblog.com/cms/blog/8209-redshift-cosmic-... The interpretation of Supernova light curves and respective time dilation therefore cannot proceed without considering the absorption of light in DPs.

Cosmic Dust and Galaxy Rotation Curves

Similar to light from receding galaxies and Supernovae explosions, astronomers use the Doppler shift of light from different parts of a spiral galaxy to determine its rotation velocities. In the plane of rotation, the galaxy is described by spiral arms of stars emanating from the galactic center while the edge view shows a bulge at the center of a thin disk. In edge view, galaxy rotation consists of half of the disk moving away from us leaving a trailing cloud of DPs in the light path to us. However, there are far less DPs present in the half moving toward us. Our edge view of a rotating galaxy is therefore altered by an asymmetric cloud of DPs.

Light from the galaxy passing through the asymmetric cloud of DPs undergoes more QED induced redshift on the half moving away than that moving toward us. Away from the galaxy, the DPs in the light path to us induce the same QED redshift for both halves of the disk, but compared to the cloud of trailing DPs may be neglected. The asymmetry in QED induced redshift if interpreted as a Doppler shift suggests the galaxy is rotating faster than it actually is. Since the trailing cloud of DPs is always present at any distance from the galactic center, the galaxy rotation appears to be flat with distance. By QED induced redshift, the galaxy rotation problem is resolved by treating the Doppler shift as anomaly of cosmic dust having nothing to do with rotation velocities, thereby allowing the dynamics of spiral galaxies to be governed solely by Newtonian mechanics.

Conclusions

1. Cosmic dust refutes velocities determined by Doppler shift leaving Newtonian mechanics alone to govern the Tully-Fisher relation for spiral galaxy rotation curves. Rotation velocities inferred from Doppler shifts should be not used in explaining galaxy dynamics, and instead treated as anomolies of cosmic dust . There is no need for dark matter and MOND to explain the galaxy rotation problem.
2. The failure of the LCDM model to explain galaxy rotation curves began with Hubble who proposed the observed redshift of galaxies be interpreted as recession velocities given by the Doppler shift instead of by absorption in cosmic dust.
3. Astronomers may want to consider abandoning the LCDM model in favor of a static Universe once proposed Einstein.

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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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