الآيـــــــة

قال تعالى:

سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ (32))

صدق الله العظيم ،،،

سورة البقرة

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First, I thank Allah Subhanho W Talla who created me and gave me the opportunity to meet Professor: Mubarak Dirar Abdullah For his guidance, counseling and for his friendship. Without his help and Encouragement this work would never have been done. Whatever I say there are no phrases that can express my thanks to my adviser, who have helped me to improve my work through a well-balanced combination of inspiring and challenging discussions. His passion and thoroughness made this thesis possible. And I will always remember when I sent my thesis and got it back with his advises in few a days. His commitment always inspired me, working to improve my thesis. I thank him a lot. I would like to extend my gratitude towards my co-supervisor associated Professor Ahmed Hassan Alfaki. Who give me a support in different means he is one of those who were behind this work.

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Dedication

This Thesis is dedicated to all those mentioned above in my life.

Abstract

Plasma equation is used in this work to derive new non linear Lorentz transformation, beside new special relativistic energy relation dependent on potential, pressure and thermal energy. This expression reduces to the ordinary special relativity, and conforms with Newton thermodynamic and plasma energy equations. The plasma equation also predicts that photon pressure and electron gas potential can produce short range repulsive field. This short range field can be useful in constructing non singular cosmological model and describing the nature of black holes.

Using Poisson equation beside Maxwell distribution law one can find new Poisson equation.. For very high temperature, a short range gravity field exists. This is agrees with the assumptions that such short range field is observed near the stars cores, where the temperature is very high, to prevent collapse. The relativistic behavior of particles in short or long range field can be found by seeking Lorentz transformation that accounts for the effect of fields.

The analysis of the possibility of a non-zero rest mass for photons leads to coherent results and a small modification of Maxwell's equations of electromagnetic fields. Several possibilities of measure of that rest mass exist either by astronomical observations or by astronautically experimentation. Notice that photons with non-zero rest mass have been considered for the possibilities of non cosmological red shifts .These red shifts, competing with that given by the classical Doppler-Fizeau effect of the expansion of intergalactic space; require both a non-zero rest mass of photons and the presence of a very large quantity of "slow photons". Those are the possibilities of considerable modifications of the cosmological perspectives will worth a careful analysis. Some of them give an explanation of the "missing mass",.

المستخلص

تم استخدام معادلة البلازما في اشتقاق تحويلات لورنتز غير خطية جديدة, و بجانب علاقة لطاقة نسبية خاصة تعتمد على طاقة الجهد و الضغط بالاضافة لطاقة حرارية و تختزل هذه العلاقة الي علاقة النسبية الخاصة المعتادة و تتفق مع معادلات نيوتن للتحريك الحراري و طاقة البلازما.

كما تنبا معادلات البلازما بانه يمكن انتاج مجال تنافري قصير المدي باستخدام ضغط فوتوني و ضغط غاز الكتروني يمكن استخدامه في اشتقاق نموذج كوني يصف طبيعة الثقوب السوداء.

كما امكن اشتقاق معادلة جديدة لبواسون باستخدام معادلة بواسون المعتادة و قانون توزيع ماكسويل, و استخلص انه عند درجات الحرارة المرتفعة يتولد مجال قصير المدي وهي متفقة مع الفرضية القائلة انه يمكن مشاهدة مثل هذا المجال قرب اغلفة النجوم حيث يكون درجة الحرارة عالية جدا تقوم بمنع الانكماش مما يفسر وجود تأثيرهذه المجالات.

بمكن تحديد السلوك النسبي للجسمات في المجال قصير المدي و طويل المدي بالبحث عن تحويلات لورنتزالمتصله بتاثير هذه المجالات.

الكتلة غيرالصفرية للفوتونات تؤدي إلى الإزاحة نحو الأشعة الحمراء (التحول من االطوال الموجيه القصيره الى الاطوال الموجيه الطويله) و تتفق هذه الإزاحة مع النظريات التي تنبأ بها تأثير دوبلر فيزو الكلاسيكية بتوسع في الفضاء بين المجرات ويتطلب هذا وجود كتلة غير صفرية للفوتون ووجود عدد كبير من الفوتونات البطيئة كما يعتبر هذه الإفتراضات إمكانية تعديل وجهات النظر الكونية والتحليل الدقيق للحصول على تفسير للكتلة المفقودة للفوتون.

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