

الآية

قال تعالى:

لِيُبَيِّنَ لَكُمْ آيَاتِهِ وَأَعْلَمَ تَنبِيْهِ إِنَّكُمْ لَعِندَهُ
لَعَالَمٌ (32) الْحَكِيمُ

صدق الله العظيم ،،،

سورة البقرة

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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 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 تنبأ معادلات البلازما بانه يمكن انتاج مجال تنافري قصير المدى باستخدام ضغط فوتوني و ضغط غاز الكروني 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 المدى 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 تأثير هذه المجالات. يمكن تحديد السلوك النسبي للجسمات في المجال قصير المدى و طويل المدى بالبحث عن تحويلات لورنتز المتصلة بتأثير هذه المجالات. الكتلة غيرالصفريية للفوتونات تؤدي إلى الإزاحة نحو الأشعة الحمراء (التحول من الأطوال الموجية القصيره الى الأطوال الموجية الطويله) و تتفق هذه الإزاحة مع النظريات التي تنبأ بها تأثير دوبلر فيزو الكلاسيكية بتوسع في الفضاء بين المجرات ويتطلب هذا وجود كتلة غير صفريية للفوتون ووجود عدد كبير من الفوتونات البطيئة كما يعتبر هذه الافتراضات إمكانية تعديل وجهات النظر الكونية والتحليل الدقيق للحصول على تفسير للكتلة المفقودة للفوتون.

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