Probability of an Asteroid to hit the Earth is pretty low

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Exception

Global warming and climate change. It causes quantum fluctuation / Heisenberg's uncertainty in an orbital (3D) / geodesic trajectory (4D) of the planet Earth with refrence to Sun / velocity of light in vacuum (Albert Einstein)

Condition in favour of first part :-

   I.   Evolution should follow the arrow of time

  II.   Entropy of our universe increases.

 III.   When we combine theory of relativity with quantum mechanics it can be shown that our universe is energetically finite (Stephen Hawking)

  IV.   Entropic gravity :- a way toward unification in physics (Refers to paper IJCRT- 184885)

   V.   Universe is homogeneous in every direction (Fiedmann)

  VI.   All bodies fall equally fast in Gravitational field (Gallelio). Albert Einstein's had also supported this.

 VII.   Two bodies moves toward each other due to mutual gravitational force.

VIII.   Gravitational effects on any physical process are locally completely equivalent to inertial effects.

  IX.   Theory of relativity can correctly predicts the gravitational red shift.

Since gravitational force is a conservative force, So According to the conservation of energy the sum of KE and PE is constant . If a particle of mass 'm' is moving under the influence of a gravitational field generated by a massive body 'M' Newtons law of gravitation shows that PE is given by –GMm/r.

Particle of light has a zero mass, the KE of a photon is given by $h\gamma$, where h is Planck's constant & γ is the frequency of the photon. If the mass- energy relation

$$E = mc^2$$

The effective mass of photon may be deduced by.

$$m = \frac{h\nu}{c^2}$$

The equation expressing Conservation of energy. then becomes

$$h\nu - \frac{GMm}{r} = h\nu - \frac{GMh\nu}{rc^2} = \text{Constant}.$$

If $r \to \infty$, $\nu \to \nu_\infty$ the equation of conservation of energy becomes.

$$h\nu - \frac{GMh\nu}{rc^2} = h\nu_\infty$$

$$\boxed{\frac{\nu_\infty - \nu}{\nu} = -\frac{GM}{rc^2}.}$$

If h is given in the form of r then

$$\boxed{\frac{\nu_\infty - \nu}{\nu} = -\frac{gh}{c^2.}}$$

This is the equation of red shift

Gravitational and inertial state : At the foundation of Einstein's geometrodynamics (general relativity) and of its geometrical structure is one of the best tested principle " This (equivalence) principle cannot be eliminated without destroying the theory of general relativity as a whole. So Earth and Asteroid moves with constant acceleration wrt sun.

Experimental testing

Three author Alpher, Bethe, Gamow in his paper predicted radiation like the alpha, beta & gama (in the form of photons) from the very hot early stage of the Universe should still be around, but with ist temperature reduced to only a few degree above absolute zero (-273∘ C). It was this radiation that Penzias and Wilson found in 1965.

Similarly the neutrino's and anti neutrino's, however, would not have annihilate with each other, because these particles interact with themselves and with other particle only very weekly. So they should still be around today.

Theoretical Interpretation

Since no external force is act on the Asteroid and Earth, both moves towards each other due to mutual attraction.

The Gravitational potential of the asteroid at infinity is zero. Let this distance be nR, where R is the radius of the earth and n = 1,2,3,…. Etc.

Applying the law of conservation of energy for Asteroid at distance nR and near to the surface of Earth.

$$k_i + U_i = k_f + U_f \qquad\qquad (1)$$

$$\text{or} \quad \frac{1}{2}mv_i^2 - \frac{GMm}{nR} = \frac{1}{2}mv_f^2 - \frac{GMm}{R} \qquad (11)$$

$$\text{or} \quad v_f^2 = v_i^2 + 2\frac{GM}{R} - \frac{2GM}{nR}$$

$$= v_i^2 + \frac{2GM}{R}\left(1 - \frac{1}{n}\right)$$

(By taking $v_i = 0$ and $nR = \infty$, we get).

$$V_f = \sqrt{\frac{2GM}{R}} \qquad\qquad (111)$$

Maximum height attained by the Asteroid from the Earth's surface can be calculated by the equation given below.

$$r = \frac{R}{\left(\frac{Ves}{V}\right)^2 - 1} = \frac{R}{\left(\frac{Ves}{Ves}\right)^2 - 1} = \infty \qquad (1V)$$

KE of the Asteroid is

$$kE = \frac{1}{2} m \left(\sqrt{\frac{2GM}{R}} \right)^2 = 2k. \quad \underline{\hspace{3cm}} (v)$$

When we put the result of this in the gravitation red shift equation. It can be shown that the Asteroid does not enters into the gravitational field of the Earth but they pass away, does not enters into the Earth's atmosphere. If they enters into the atmosphere they burns away to follow the principle of Albert Einstein's matter- energy thermodynamic equilibrium, causes atmospheric shower. If it falls down then they causes pretty low destruction.

Again let the velocities of asteroid and Earth be v_f and V respectively at the 'r' distance apart
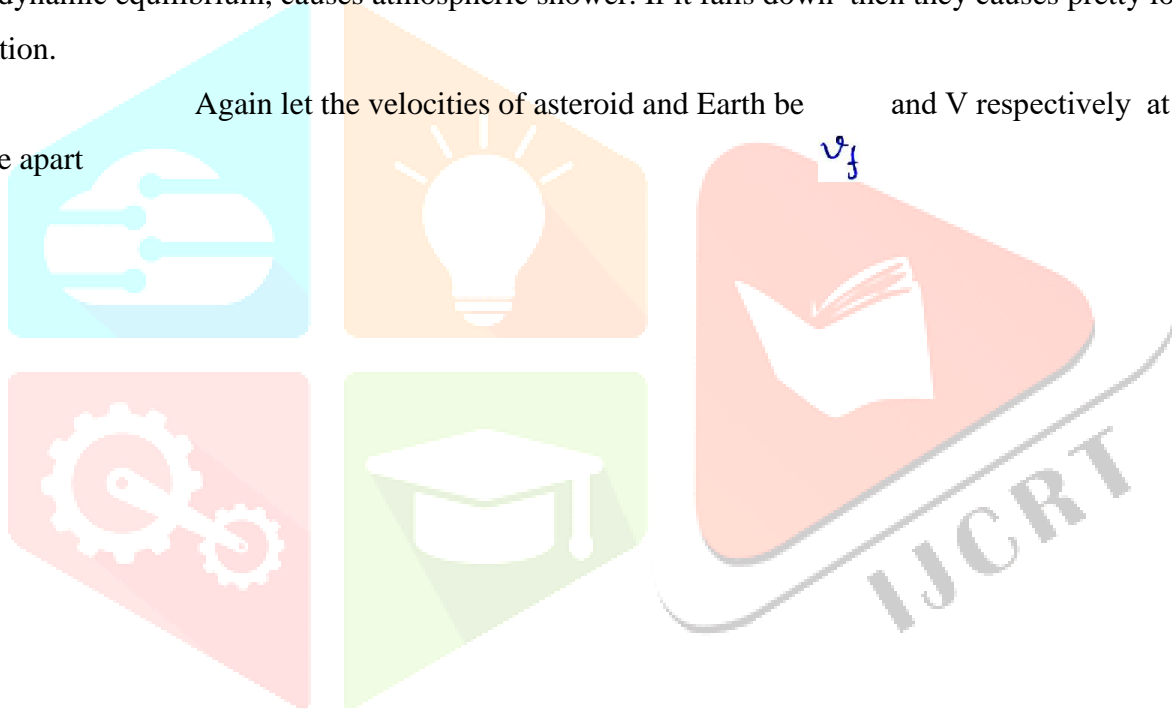
$$mv_f - MV = 0 \quad\underline{\qquad} \quad (VI)$$

$$mv_f = MV$$

By the law of Conservation of energy.

change in PE = change in KE

$$\frac{GMm}{r} = \frac{1}{2}mv_f^2 + \frac{1}{2}MV^2.$$

$$\frac{m^2v_f^2}{m} + \frac{M^2V^2}{M} = 2\frac{GMm}{r} \quad\underline{\qquad}(VII)$$

On solving the equation (VI) and (VII), we get.

$$v_f = \sqrt{\frac{2Gm}{r(M+m)}}$$

$$V = \sqrt{\frac{2GM}{r(M+m)}}$$

$$\therefore V_{app} = |v_f| + |V| = \sqrt{\frac{2G}{r}(M+m)}$$

Here $r = \infty$ from the equation (IV).

$$V_{app} = 0 \quad\underline{\qquad}(VIII)$$

From the eq (VIII) it is clear that the relative velocity of their approach is zero

The content above that I have written is dimensionally correct and the law that I have used up (law of conservation of energy) is independent of the frame of refrance.

Theoretical prediction :-

An Asteroid, named 2013 tv 135 and Bennu shall, not hit the Earth in near future, drops does not causes big destruction upto 2041. So assumption of NASA shall found to be wrong.

It is to be assume that the temperature of the sun will reducued after 2050