

Artificial Sun: A Close Future Reality

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Abstract

A large amount of energy that is being generated through a nuclear reaction i.e. nuclear fusion which takes place in the core of the Sun can be artificially created in very near future.

Recent experiment which is performed in United States of America is an evidence of the statement made above.

In a laboratory artificial Sun can be formed as revealed the secret according to recent experiments performed in National Ignition Facility.

The experiment was performed with powerful lasers bombarding Hydrogen Isotopes

KEYWORDS: Powerful Lasers, Ignition facility

Introduction

In an experiment performed in Lawrence Livermore National Laboratory (LLNL) located at California (US) large amount of energy is generated with emission of abundant heat which can be used to run many steam engines or boilers to generate electricity in large extent.

Recently the news was published by large news-papers, print media, in US.

Theory and Discussion

In an experiment recently performed in LLNL US, Isotopes of Hydrogen wise Deuteron and Tritium when bombarded with high power Lasers say tera watt (10^{12} watt) Laser which caused 50 explosions in one seconds with generation of large amount of energy in the form of heat, thermo, mainly along with sound, light, nuclear and plasma energy form.

The deuterium and tritium nuclei fused together to form enormous amount of energy.

The experiment is proved firmly that the controlled nuclear fusion can be successfully carried out for formation of artificial sun. The National Ignition Facility of US with the help of nuclear fusion has claimed to generate clean and pure fusion energy in near future.

When Deuterium and Tritium isotopes are fused together, Helium nuclei is formed which is the fact or evidence of formation of fusion reaction with rapid emission of large amount of thermal and heat energy. Only controlling the heat or thermal energy is a big challenge in the laboratory experiment.

It's an example of controlled nuclear fusion under high controlling precision instruments or equipment. Very powerful magnets (Electromagnets) are used to focus the highly developed electromagnetic field along with Lasers to generate high amount of heat and thermal energy.

Along with high heat and thermal energy light energy is also generated in this process.

In LLNL laboratory experiment, on a palate of isotopes of Hydrogen i.e. Deuterium and Tritium are bombarded with very high power two hundred Lasers with aptly closed distance. Fifty explosions were carried out per seconds. Helium nuclei is formed along with enormous amount of energy measured in giga-electron volts .one mega electron volts = 3.6×10^{-13} Joules.

This large amount of energy can be used to run high energy turbines to generate electric greed systems for generation of electricity.

This energy will be very pure and clean energy for further use in all types of energy sectors, vehicle fuels, running electronic gadgets, electrical devices, and electronic equipment.

Conclusion

For electricity generation, from nuclear fusion, large amount of energy is possible only when very small amount of expenses can be applied. Scientists are trying to minimise the expenses for generation of energy in abundant form.

A new mechanism can be generated for formation of nuclear fusion experiment in minimum amount or minimum expenses. Scientists are planning to minimise the cost of construction of this type of artificial Sun which can be operational under very controlled mechanism in very near future.

One such effort of making of the artificial Sun was made in 1976 in Russia, in the form of Tokomak Plasma reactor was formed which can generate tremendous amount of energy. But with inadequate controlling mechanism this experiment was abruptly abandoned.

This time scientists are optimistic enough to form artificial Sun in US of course with the help of scientists of the world including India for generation of future energy with minimum amount of expenses.

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