NUCLEAR ENERGY

THE BETTER ENERGY

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Nuclear Energy - The Better Energy is an initiative to create awareness about the applications of peaceful Nuclear Energy. We proudly present our July newsletter.

NUCLEAR 101

Nuclear 101 is a section where we will bring to you some of the most basic concepts of Nuclear Physics explained in a non-specialist way

Smoke Detectors

Most smoke detectors use a small amount (1.0 microCurie) of Americium-241, which is an an alpha-emitting radioactive source i.e., it decays by emitting alpha particles. Modern smoke detectors emit around 37,000 alpha particles per second. However, the americium is encased in ceramic and foil and very few of them can exit the detector.

A typical smoke detector has three major components – the ionization chamber, a radioactive source and a battery. The ionization chamber consists of two metal plates held at different voltages. The 241Am source emits alpha particles that interact with the air molecules in between the two plates. This interaction causes the air molecules to break down to positive and negative ions which are then attracted to the negative and positive plates respectively. This flow of charges results in an electric current. If there is smoke in the air, the smoke particles stick to the ionized air molecules and obstructs their flow to the metal plates. This obstruction leads to a decrease in the electric current. It is this decrease in current which is detected and triggers the smoke alarm.

The U.S. National Council on Radiation Protection and Measurements estimates an annual radiation dose of 9-50 nanosievert from household smoke detectors which is negligible as compared to 3.6 millisievert of radiation dose received by a typical person in the US from natural and other man-made sources.

Visit our website (thebetterenergy.net) for latest updates about Nuclear Energy

Highlighted Articles

Chernobyl: A belated review

Thanks to the trending miniseries 'Chernobyl' on HBO, nuclear power, and its applications have been popular discussion topics among GenY. Although somewhat fictionalized, this series successfully rescinds one of the tragic yet important scientific events of human history.

Find out what exactly happened on the night of 26th April 1986 at Pripyat that has, since then, changed the world's perspective about Nuclear Energy. Could this have been avoided?Read on to know how our newest member Ashabari Majumdar answers this and many such important questions.

READ FULL ARTICLE HERE: HTTPS://THEBETTERENERGY.NET/CHERNOBYL-BELATED-REVIEW

The Nuclear Leap to Outer Space

Mankind's curiosity to know what secrets lie hidden in the dark outer space is not new. From the invention of the very first telescope in the 17th century to the present-day space exploration programs, man has always been keen to discover the treasures concealed by our galaxy - the Milky Way and beyond. This eagerness has fueled research and development efforts towards rockets and satellites since the 1957 launch of the first Soviet artificial satellite "Sputnik 1" into the outer space.

Through this article, we take you into the nuclear realm of space exploration. Read to find the different techniques with which nuclear energy can be harnessed to power spacecrafts, shuttles, satellites and more.

READ FULL ARTICLE HERE: HTTPS://THEBETTERENERGY.NET/NUCLEAR_IN_SPACE

DID YOU KNOW?

Nuclear Fuel is extremely dense. Because of this, the amount of used nuclear fuel is not as big as you think. All of the used nuclear fuel produced by the U.S. nuclear energy industry over the last 60 years could fit on a football field at a depth of less than 10 yards. (www.energy.gov)