Using deuterium to make solar power generation equipment

Although different isotopes of light elements can be paired to achieve fusion, the deuterium-tritium (D-T) reaction has been identified as the most achievable and the most efficient.

Current technologies for deuterium production have poor separation capabilities and high energy costs. Therefore, there is a need for cost- and energy-efficient deuterium-generation ...

This is precisely the main purpose of our deuterium gas-puff experiments that have been carried out on the GIT-12 generator at ~3 MA currents and ~us rise times.

To create electricity from fusion using a D-³He fuel cycle, we must engineer a machine that can both operate with and abundantly generate fuels for sustained use.

The fuel cells described herein consume deuterium as an energy source, which leads to better power production when compared using an equivalent amount of hydrogen.

In fuel cells, deuterium gas combines with oxygen to produce water, releasing a large amount of energy, which can be used in power generation and automotive applications.

To create burning plasmas in experimental fusion power plants such as tokamaks and stellarators, scientists seek a fuel that is available and relatively easy to produce and store. One current ...

Scientists explore nuclear fusion using light element isotopes, highlighting deuterium and tritium as the promising fuel for clean energy.

To avoid certain R& D challenges including structural material damage from energetic neutrons, fusion scientists are interested also in aneutronic fusion reactions (such as deuterium ...

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Motivated by energy shortages and in view of current efforts to develop clean, renewable energy sources based on fusion, a solar-driven strategy has been developed for deuterium evolution.

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