

Possibility of room temperature solid state nuclear fusion

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Abstract

It was about 15 years ago that I first heard about room temperature solid state nuclear fusion. I was very excited when I learned about the research of Dr. Yoshiaki Arata, Professor Emeritus at Osaka University. I was also deeply convinced that this technology must be brought out to the world at any cost. Fifteen years have passed since then, and I have been secretly watching, but now that the practical application of room-temperature solid-state nuclear fusion is just a step away, I have written this short paper to make this technology widely known to those who are still unaware of it.

General comments

As we all know, oil has been the world's main energy source since the 19th century. However, the role that oil has played for mankind has been very significant, and it has contributed to the development of mankind. On the other hand, the acquisition of oil energy was one of the triggers for World War II, which has a so-called negative side.

Even now, in the 21st century, mankind is still dependent on petroleum energy. Considering the concern about the depletion of petroleum resources, and the risk of triggering a new outbreak of war, the spread of new alternative energy sources is required as soon as possible.

There are five major advantages of room-temperature solid state fusion.

(1) Ultra Clean Energy

Room temperature nuclear fusion reactions do not produce harmful radioactive materials or neutron radiation, despite being nuclear reactions. Only stable isotope elements are produced by the reaction. This is a big difference from current nuclear power, and room temperature fusion does not have any waste disposal problems. Moreover, since it does not produce carbon dioxide or soot, it is a much cleaner energy source than coal or oil.

(2) Abundant Fuel

Fuel is hydrogen and nickel.

Both of these elements exist in abundance on Earth, so there is no need to worry about depletion.

(3) High Energy Density

This refers to the amount of energy that can be generated per gram of fuel. In general, the energy generated by a nuclear reaction is a million times greater than the energy generated by a chemical reaction such as combustion. Rossi's E-Cat consumes a small amount of hydrogen and nickel, but only needs to be refueled once every six months. With about 100 grams of nickel, it will continue to generate more than several kW of heat for six months. (Input power is required for the reaction to occur, but if a power generator is installed, this will be covered.)

(4) New Economy

(Input power is required to start the reaction, but this can be covered by adding a power generator. This will bring about major changes not only in power generation, but also in various other fields such

as cars, electronic devices, and space development. Some industries will die out, but I expect a number of new companies and new industries to emerge.

(5) Global Power Shift

In today's world, money and power are inevitably concentrated in countries that have energy resources such as oil, and in countries that hold the settlement currency for oil. However, if room temperature fusion becomes widespread, it will be easy for anyone in any country to obtain energy. Power generation devices using room temperature fusion can be made smaller, so there is no need for huge power distribution facilities. It is not a dream for a small community to have its own power plant. This will change the nature of our society.

At the end

Professor Emeritus Arata's room-temperature solid-state nuclear fusion is now one step closer to practical application, but I have heard that the road to this point has not been a peaceful one. In other words, rather than reproducibility of experiments, there have been "obstructions" from various interests. In other words, the vested interests had to destroy this technology at all costs. We can expect more difficulties and twists and turns in the future, but I will continue to watch quietly with high hopes.

Thank you again for reading this article

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