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The design of an igniting agent for fusion energy systems ver.2.0

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Single-layer graphene is currently produced on an ongoing basis to meet the demands of researchers. In recent years, there have been significant discoveries regarding the unique properties of this material, one of which is the generation of plasmons in graphene in response to excitement in the THz frequency range. Based on this concept, the present paper proposes two possible designs for a fusion energy ignition agent. These concepts could potentially allow fusion ignition at lower energies than are currently possible.

The basic concepts on which these designs are based are as follows.

1) The Coulomb forces associated with ionized deuterium and tritium nuclei are negated by the formation of higher energy plasmons around these nuclei.

2) The electric field has its highest value at the regions indicated by the yellow points in Figure 1. Consequently, ionized fuels would be expected to migrate towards the closest yellow points from both sides.

Figure 1. Diagrams showing three views of the “Nano Sandwich”™ concept for a nano-scale igniting agent in which fusion fuels are separately sandwiched between three graphene sheets.

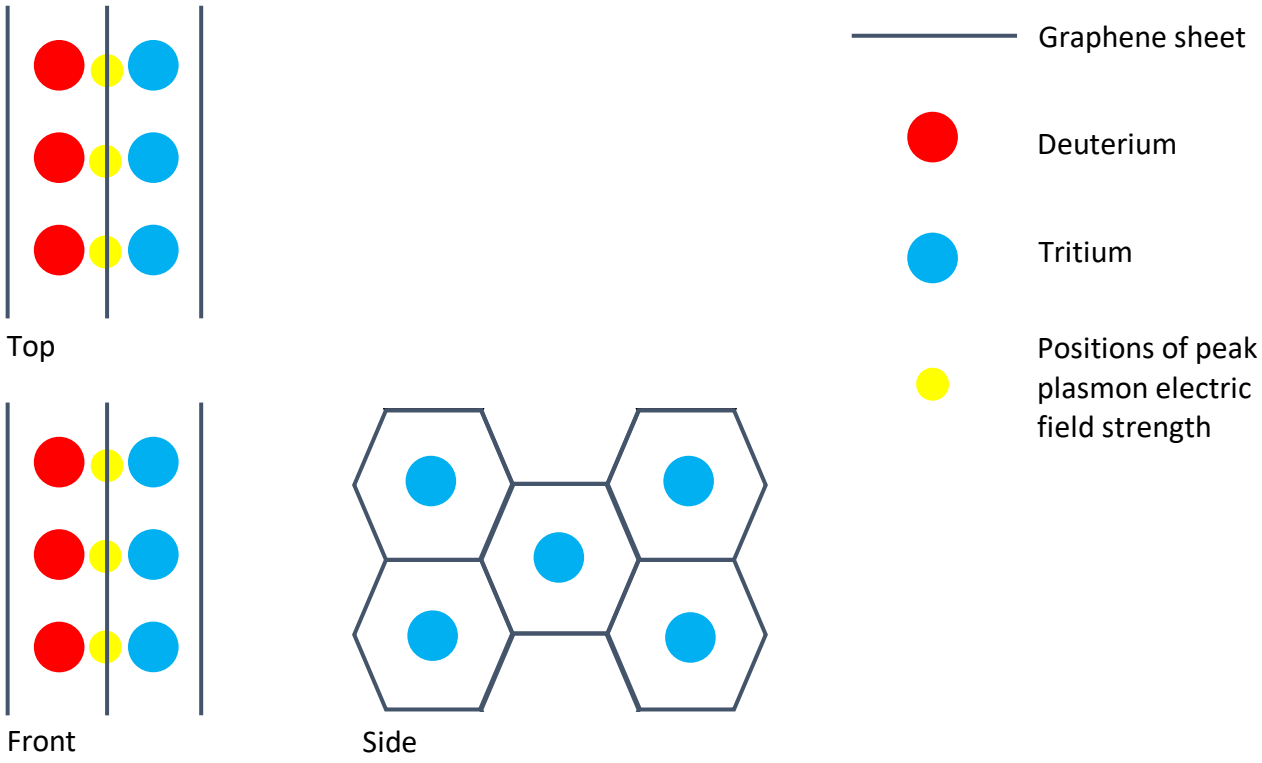
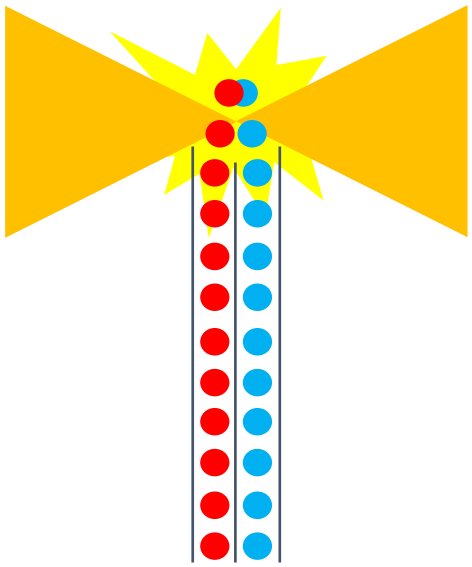


Figure 2. A diagram of a reactor design in which THz laser pulses are imparted to a vertical “Nano Sandwich” unit from either side.

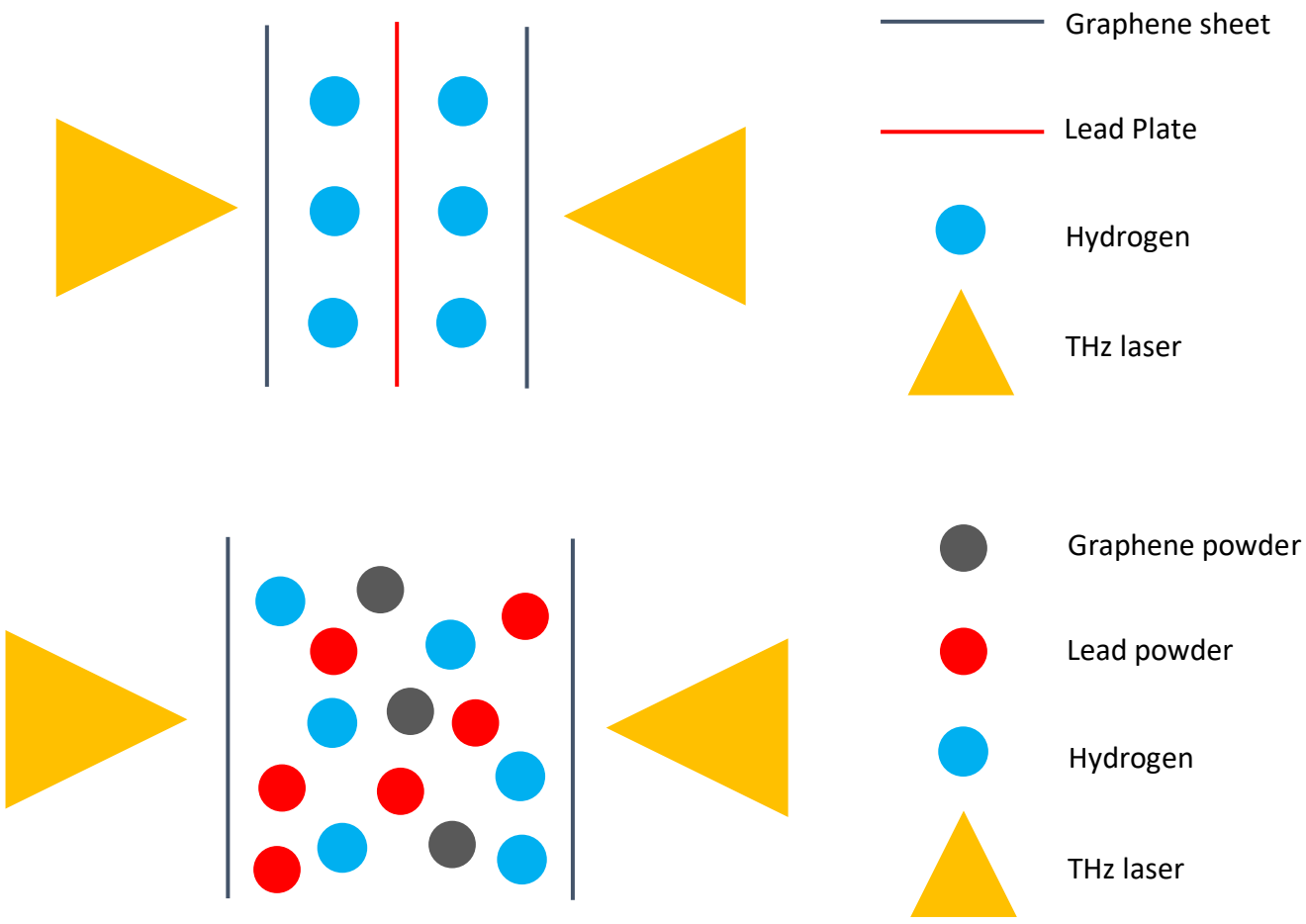


Reference: Have We Found a Breakthrough on Potential Catastrophes? by Ryoji Furui (2014)

Appendix: Application to Low-Energy Nuclear Reaction with alchemical process

The purpose of this appendix is to explore the possibility of using the nano sandwich concept in conjunction with Low-Energy Nuclear Reaction (LENR), based on Widom Larsen theory[1]. By doing so, we may be able to harness the energy released from beta-decay electrons. If successful, this could provide us with a source of electrical power or hear, which could potentially be used as a sustainable energy resource.
Our device design involves using either nano-plates or nano-powders made of lead, combined with hydrogen, to initiate the reaction. We propose utilizing graphene sheets and powders as plasmon generators. Based on our hypothesis, the fusion of lead and hydrogen atoms should produce gold as a byproduct, which could potentially be useful as a waste product.

Figure 3. A diagram of a reactor design in which THz laser are imparted to a vertical "Nano Sandwich" unit from either side.



[1] Widom, A. and Larsen, L., Ultra low momentum neutron catalyzed nuclear reactions on metallic hydride surfaces, *Eur. Phys. J. C*, **46**, 107-111 (2006)