## CLAIMS

What is claimed is:

1. A system comprising:

an enclosure;

one or more internal magnetic coils suspended within an interior of the enclosure and co-axial with a center axis of the enclosure;

one or more encapsulating magnetic coils co-axial with the center axis of the enclosure, the encapsulating magnetic coils having a larger diameter than the internal magnetic coils;

one or more mirror magnetic coils co-axial with the center axis of the enclosure; and

one or more magnetic reconnection coils co-axial with the center axis of the enclosure, wherein the one or more magnetic reconnection coils, when pulsed by a power source, are disposed to reconfigure one or more magnetic fields within the enclosure.

2. The system of claim 1, wherein the one or more magnetic fields are reconfigured from a baseline position during a risetime of a pulse of the one or more magnetic reconnection coils, and wherein the reconfiguration of the one or more magnetic fields is disposed to increase energy in the one or more magnetic fields and induce an electric field.

3. The system of claim 2, wherein the reconfiguration of the one or more magnetic fields generates at least one magnetic null in the one or more magnetic fields.

4. The system of claim 3, wherein, if fusion gas is introduced inside the enclosure, the electric field breaks down the fusion gas and causes the generation of plasma, the plasma disposed to gather at the at least one magnetic null.

5. The system of claim 3, wherein plasma, if introduced inside the enclosure, is disposed to gather at the at least one magnetic null.

6. The system of claim 5, wherein during a fall time of the pulse of the one or more magnetic reconnection coils, the energy in the one or more magnetic fields decreases.

7. The system of claim 6, wherein the decrease in the energy in the one or more magnetic fields causes the at least one magnetic null to accelerate down to the baseline position.

8. The system of claim 7, wherein the energy in the one or more magnetic fields is released into the plasma.

9. The system of claim 8, wherein the plasma releases heat.

10. A method comprising:

energizing one or more internal magnetic coils suspended within an interior of an enclosure and co-axial with a center axis of the enclosure;

energizing one or more encapsulating magnetic coils co-axial with the center axis of the enclosure, the encapsulating magnetic coils having a larger diameter than the internal magnetic coils;

energizing one or more mirror magnetic coils co-axial with the center axis of the enclosure;

pulsing one or more magnetic reconnection coils co-axial with the center axis of the enclosure, wherein a pulse of the one or more magnetic reconnection coils is operable to reconfigure one or more magnetic fields from a baseline position within the enclosure, thereby increasing energy in the one or more magnetic fields and generating at least one magnetic null in the one or more magnetic fields;

introducing fusion gas into the enclosure; and

generating plasma at the at least one magnetic null.

11. The method of claim 10, wherein the reconfiguration of the one or more magnetic fields comprises magnetically reconnecting the one or more magnetic fields.

12. The method of claim 10, wherein the reconfiguration of the one or more magnetic fields occurs at a rise time of the pulse of the one or more magnetic reconnection coils.

13. The method of claim 10, wherein the reconfiguration of the one or more magnetic fields induces an electric field.

14. The method of claim 13, wherein the electric field breaks down the fusion gas and causes the generation of the plasma, the plasma disposed to gather at the at least one magnetic null.

15. A method comprising:

energizing two internal magnetic coils suspended within an interior of the enclosure and co-axial with a center axis of the enclosure, the two internal magnetic coils each having a toroidal shape;

energizing a plurality of encapsulating magnetic coils co-axial with the center axis of the enclosure, the encapsulating magnetic coils having a larger diameter than the internal magnetic coils;

energizing two mirror magnetic coils co-axial with the center axis of the enclosure; and

pulsing one or more magnetic reconnection coils co-axial with the center axis of the enclosure, wherein a pulse of the one or more magnetic reconnection coils is operable to reconfigure the one or more magnetic fields from a baseline position in the enclosure, thereby increasing energy in the one or more magnetic fields and generating at least one magnetic null in the one or more magnetic fields;

introducing plasma into the enclosure, the plasma disposed to gather at the at least one magnetic null; and

collapsing the one or more magnetic fields to decrease the energy in the one or more magnetic fields and release the energy into the plasma.

16. The method of claim 15, the reconfiguration of the one or more magnetic fields comprises magnetically reconnecting the one or more magnetic fields.

17. The method of claim 15, wherein the reconfiguration of the one or more magnetic fields occurs at a rise time of the pulse of the one or more magnetic reconnection coils.

18. The method of claim 15, wherein the step of collapsing occurs at a fall time of the pulse of the one or more magnetic reconnection coils.

19. The method of claim 15, wherein the step of collapsing further comprises:

accelerating the at least one magnetic null to the baseline position.

20. The method of claim 15, wherein the step of collapsing heats the plasma.