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What Matters in Building a Fusion Reactor

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Integrated Concentration in Science

What is fusion energy?
A thermonuclear process where atoms are fused through heat and pressure rather than split to create energy.

Fusion energy and climate change
Fusion produces no gas emissions or toxic waste. The fuel needed is the readily abundant element deuterium.

The safety of fusion energy
Unlike fission if there is an a failure to contain plasma it will just expand and cool quickly.

Why now?
Using fusion energy is a brand source that experts are trying to master. There is not a lot of information on fusion reactors and major setbacks.

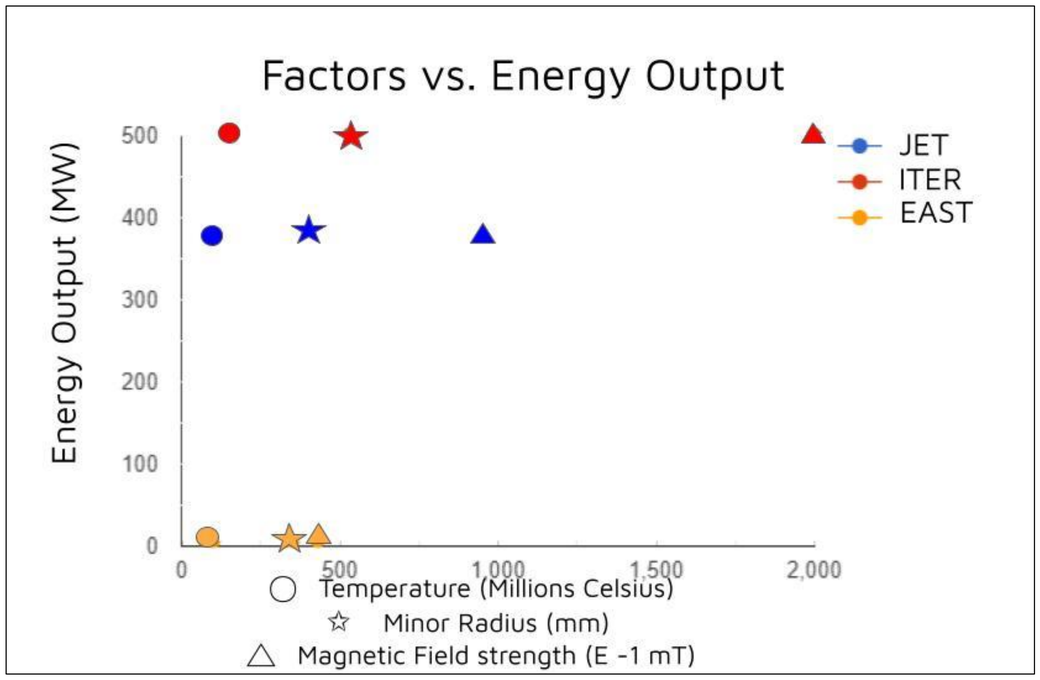
Setbacks
- Cost
- Perception of possibility
- More reliable alternatives

Study Design

Our question: How much does temperature, magnetic field strength, and size matter when improving the containment of plasma in fusion reactors?

Our hypothesis: A certain combination of these three factors will maximize the energy output.

Our method: Plot energy output as a function of these three factors to determine if there is any correlation, then suggest possible combinations of traits for a future reactor.



Conclusion:
We do not have enough information. So far with ITER being the most successful the most we can say is imitate their reactor.

Sources

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