

# Fusion chain reaction?

---

*Source:* <http://sci.tech-archive.net/Archive/sci.physics.research/2007-09/msg00056.html>

---

- *From:* [eastmond@xxxxxxxxx](mailto:eastmond@xxxxxxxxx)
  - *Date:* Wed, 12 Sep 2007 21:18:27 +0000 (UTC)
- 

Hi,

I was wondering what would happen if a roughly 10 MeV proton or neutron was fired into a large dense target consisting of a mixture of deuterium and tritium – let's say several cubic metres of gas held at high pressure but low temperature so that it is almost at the density of liquid water. I imagine that the target is large and dense enough so that the projectile particle is guaranteed to scatter off a deuterium or tritium atom rather than pass straight through the target.

Would the high energy particle transfer enough kinetic energy to a number of deuterium or tritium atoms so that they scatter with a high kinetic energy and fuse with other deuterium/tritium atoms and thus produce tritium, helium-3, helium-4 and further protons and neutrons with varying kinetic energies?

Could one end up with a self-sustaining chain reaction occurring at a relatively low temperature?

This would be different from the standard fusion schemes in which the whole of the fuel is heated up to a temperature high enough to produce fusion reactions.

John

.