介紹

星際衝壓推進器[r]

是一種以核融合為動力核心概念的推進器[lr]

改進自巴薩德衝壓推進器[w]

巴薩德衝壓推進器主要概念是用磁場蒐集核融合原料再進行反應[lr]

但因人類目前用於核融合的原料(氘、氚)在宇宙中密度過低難以蒐集[r]

所以改進出星際衝壓推進器[w]

一樣是用磁場蒐集核融合原料[r]

這個方案中把收集的氫原子、離子用作一部分的反應原料[lr]

(氫原子、離子在宇宙中密度較高)[w]

Bussard ramjet[r]

is a thruster with nuclear fusion as the core concept.[w]

The main concept of Bussard ramjet is to use magnetic fields to collect nuclear fusion raw materials and then react to them.[lr].

In this scheme, the collected hydrogen atoms and ions are used as a part of the reaction raw material.

(Hydrogen atoms and ions are denser in the universe) (w)

將質子束(氫原子核)能量降低至1百萬電子伏特[r]

用他們轟擊鋰-6或硼-11製成的標靶[lr]

(鋰或者硼和質子的融合相較於氫氫來說很容易發生且釋放的能量巨大)[w]

使用星際衝壓發動機的飛船快要到達目的地需要減速的時候[r]

只要打開磁場但不啟動發動機[r]

就可以用磁場在行進中形成的阻力減速[lr]

因為星際衝壓推進器的飛船需要到達6%光速才能蒐集到足夠的原料持續飛行[lr]

所以在減速的過程蒐集原料供減速到6%光速以下時使用[w]

這種引擎目前最大的問題是需要到達6%光速以上才能順暢使用[lr]

除此之外可控核融合的技術也是一大問題[w]

Reduce the energy of the proton beam (hydrogen nucleus) to 1 million electron volts,[r]

And hit the targets made from lithium-6 or boron-11.[lr]

(The fusion of lithium or boron and protons is more likely to occur than hydrogen and releases a lot of energy) [w]

When a ship with a Bussard ramjet approximately reaches its destination and needs to decelerate,[r]

we just need to turn on the magnetic field but don't start the engine.[r]

Then, the resistance formed by the magnetic field during the travel can be used to decelerate.[lr]

Because the spacecraft with Bussard ramjet needs to reach 6% light speed to collect enough raw material to keep flying.[lr]

Thus, we need to collect enough raw materials to use when decelerating below 6% light speed during the deceleration process.[w]

The biggest problem with this engine now is that it needs to reach more than 6% of the speed of light to be able to use it smoothly.[lr]

In addition, controlled nuclear fusion technology is also a big problem.[w]