

新鲜事：星际旅行要实现了？

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核能作为一种优势明显的新能源，真是让人又爱又怕。核泄漏造成的灾难屡次出现，让它备受争议。人类何时才能真正的驾驭核能呢？

最近一支澳大利亚研究团队首创一种新技术，称能在五年内驾驭核聚变，并且清洁，绝对安全，反应堆甚至可以放置在人口密集的地区。由此推断，核能的广泛应用或可带来前所未有的各领域革新，就连星际旅行也不再是白日梦。

不妨考虑一下，现在去预定一张五年后飞往火星的飞船票先？

科学家们最近发表的关于新型核聚变技术的研究成果很鼓舞人心，但要获得“清洁能源的圣杯”我们还需要继续努力。

Recent reports from scientists pursuing a new kind of nuclear fusion technology are encouraging, but we are still some distance away from the "holy grail of clean energy".

这项技术是由新南威尔士大学的海因里希·霍拉和他的同事共同开发的，他们使用功率强大的激光把氢和硼原子融合在一起，以便释放出可以用来发电的高能粒子。

The technology developed by Heinrich Hora and his colleagues at the University of NSW uses powerful lasers to fuse together hydrogen and boron atoms, releasing high-energy particles that can be used to generate electricity.

然而，与其他类型的核聚变技术一样，该技术的难点在于如何制造一台能够有效启动反应并利用其产生的能量的机器。

As with other kinds of nuclear fusion technology, however, the difficulty is in building a machine that can reliably initiate the reaction and harness the energy it produces.

什么是聚变？

What is fusion?

聚变就是为太阳和恒星提供能量的过程。当两个原子的原子核被迫紧靠在一起的时候，它们就会结合成一个原子并在这个过程中释放能量。

Fusion is the process that powers the Sun and the stars. It occurs when the nuclei of two atoms are forced so close to one another that they combine into one, releasing energy in the process.

如果能在实验室控制这种反应，它就有可能在几乎零碳排放的情况下，提供近乎无限的基载电力。

If the reaction can be tamed in the laboratory, it has the potential to deliver near-limitless baseload electricity with virtually zero carbon emissions.

氢和硼的实验确实产生了极好的结果，但是霍拉和他的同事预期在5年里实现控制核聚变能量的想法似乎还为时过早。其他人也尝试过用激光触发核聚变。例如，美国国家点火装置实验室曾尝试用192束激光照射一个小靶核来实现氢-氘聚变点火。

The experiments with hydrogen and boron have certainly produced fascinating physical results, but projections by Hora and colleagues of a five-year path to realising fusion power seem premature. Others have attempted laser-triggered fusion. The National Ignition Facility in the US, for example, has attempted to achieve hydrogen-deuterium fusion ignition using 192 laser beams focused on a small target.

这些实验有三分之一达到了单次实验所需的点火条件。其中面临的挑战有目标的精确定位、激光束的不均匀性以及目标内爆时的不稳定性。

These experiments reached one-third of the conditions needed for ignition for a single experiment. The challenges include precise placement of the target, non-uniformity of the laser beam, and instabilities that occur as the target implodes.

这些实验每天最多能进行两次。相比之下，据估计，一个发电厂可能需要每秒进行相当于这样10次的实验。

These experiments were conducted at most twice per day. By contrast, estimates suggest that a power plant would require the equivalent of 10 experiments per second.

也就是说，总有巧妙创新和提出新概念的空间，而且我们很高兴能看到在核聚变科学上进行的各种投资。

That said, there is always room for smart innovation and new concepts, and it is wonderful to see all kinds of investment in fusion science.

相关句子

1.我们知道你们的战船不能进行星际旅行。

We know you have battleships that are not capable of interstellar travel.

2.乘太空船作星际旅行。

An interplanetary journey in a space ship.

3.对于读过科幻杂志中星际旅行故事的读者来说，小行星已是平淡无味了。

Asteroid has become commonplace to the readers of interstellar travel stories in science fiction magazines.

4.我现在玩的这种科幻电子游戏是根据电视剧《星际旅行》做的。

I just got this new sci-fi game based on the Star Trek show.

5.把我传上飞船“是另一部电视剧”星际旅行“中的标志性台词。

"Beam me Up Scotty," is a tagline from another television show," Star Trek".