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Date: 18 Nov 2024

### **The Future of Fusion**

<https://issues.org/future-of-fusion-lo-whyte-ford-forum/>

### **A New Fusion Prototype Floats Into Action**

<https://spectrum.ieee.org/dipole-fusion-reactor>

### **Vacuum vessel sector assembly - Aiming for three times as fast**

<https://www.iter.org/node/20687/aiming-three-times-fast>

[Latest ITER Newline: <https://www.iter.org/whatsnew>]

### **A New Commercial Model To Unlock Fusion Energy**

<https://www.forbes.com/sites/stephenwunker/2024/11/14/a-new-commercial-model-to-unlock-fusion-energy/>

### **Japan launches FAST fusion project**

<https://www.world-nuclear-news.org/articles/japan-launches-fast-fusion-project>

### **Advanced Gyrotron Technologies**

<https://euro-fusion.org/eurofusion-news/advanced-gyrotron-technologies/>

### **F4E SME Day puts business opportunities in the spotlight**

<https://fusionforenergy.europa.eu/news/f4e-sme-day-fusion-business-opportunities/>

### **Europe signs major contract in the field of civil engineering**

<https://fusionforenergy.europa.eu/news/europe-signs-major-contract-in-the-field-of-civil-engineering/>

### **Assystem, Egis and Empresarios Agrupados extend ITER roles**

<https://www.world-nuclear-news.org/articles/assystem-egis-and-empresarios-agrupados-extend-iter-roles>

### **LLNL researchers explore next-gen 3D printing to harness fusion energy**

<https://www.llnl.gov/article/52046/llnl-researchers-explore-next-gen-3d-printing-harness-fusion-energy>

### **COP29: Accelerating our understanding of materials for fusion is key to the energy transition**

<https://www.theengineer.co.uk/content/opinion/accelerating-our-understanding-of-materials-for-fusion-is-key-to-the-energy-transition>

### **Nuclear fusion power patent boom reflects rising innovation**

<https://www.innovationnewsnetwork.com/nuclear-fusion-power-patent-boom-reflects-rising-innovation/52737/>

### **Beyond Tungsten: Scientists Unveil Game-Changing Materials for Fusion Reactors**

<https://scitechdaily.com/beyond-tungsten-scientists-unveil-game-changing-materials-for-fusion-reactors/>

### **Nuclear fusion start-up claims milestone with unconventional reactor**

<https://www.ft.com/content/69ac41e6-36ad-41b7-92f3-25198a338c0f>

### **UI Still Operating Voyager Plasma Wave Instrument**

<https://physics.uiowa.edu/news/2024/11/ui-still-operating-voyager-plasma-wave-instrument>

### **Paving the way for future fusion energy: Exhaust control for SPARC**

<https://www.innovationnewsnetwork.com/paving-the-way-for-future-fusion-energy-exhaust-control-for-sparc/52673/>

### **Team reveals how current sheets in turbulent plasma form in Earth's magnetosheath**

<https://phys.org/news/2024-11-team-reveals-current-sheets-turbulent.html>

### **Assessing Technical and Economic Aspects of Nuclear Hydrogen Production for Near Term Deployment**

<https://www.iaea.org/publications/15736/assessing-technical-and-economic-aspects-of-nuclear-hydrogen-production-for-near-term-deployment>

**[Download PDF]** <https://www-pub.iaea.org/MTCD/Publications/PDF/TE-2075web.pdf>

### **Power hungry: Big tech backing nuclear is huge opportunity for Britain**

<https://www.niauk.org/power-hungry-big-tech-backing-nuclear-is-huge-opportunity-for-britain/>

### **Harnessing fusion energy with benefits for the energy and industrial strategy of Europe**

<https://www.innovationnewsnetwork.com/harnessing-fusion-energy-with-benefits-for-the-energy-and-industrial-strategy-of-europe/52614/>

### **NEC Secures Order for Advanced Supercomputer to Drive Fusion Science Research at Japan's National Institutes**

<https://www.hpcwire.com/off-the-wire/nec-secures-order-for-advanced-supercomputer-to-drive-fusion-science-research-at-japans-national-institutes/>

### **Award-winning UKAEA Annual Report praised for transparency**

<https://ccfe.ukaea.uk/award-winning-ukaea-annual-report-praised-for-transparency/>

### **New family of optimized magnetic fields could display enhanced fusion plasma confinement**

<https://phys.org/news/2024-11-family-optimized-omnigenous-magnetic-fields.html>

### **Harnessing fusion for Saudi Arabia's energy mix**

<https://www.arabnews.com/node/2579466>

### **World's largest fusion project gets Hyundai's vacuum vessel to house nuclear reactions**

<https://interestingengineering.com/energy/iter-vacuum-vessel-fusion-plasma>

### **Ensuring a durable transition**

<https://news.mit.edu/2024/ensuring-durable-transition-1115>

### **Google Turns to Nuclear as Fusion Progresses**

<https://eepower.com/tech-insights/google-turns-to-nuclear-as-fusion-progresses/>

### **German HPC Centers Unite for Landmark Plasma Physics Simulation**

<https://www.hpcwire.com/off-the-wire/german-hpc-centers-unite-for-landmark-plasma-physics-simulation/>

### **Kinetic Alfvén waves may be key to mystery of solar corona heating**

<https://phys.org/news/2024-11-kinetic-alfvn-key-mystery-solar.html>

### **ATLAS observes top quarks in lead–lead collisions**

<https://phys.org/news/2024-11-atlas-quarks-leadlead-collisions.html>

### **Joint undertakings have mixed success in securing private resources**

<https://sciencebusiness.net/news/super-computers/joint-undertakings-have-mixed-success-securing-private-resources>

### **US development bank considers investing in Polish plant**

<https://world-nuclear-news.org/articles/us-development-bank-considers-investing-in-polish-plant>

### **New Research Unlocks the Secret to Low-Temperature Diamond Growth**

<https://scitechdaily.com/new-research-unlocks-the-secret-to-low-temperature-diamond-growth/>

### **TVEL and AllWeld cooperate on decommissioning**

<https://www.neimagazine.com/news/tvel-and-allweld-cooperate-on-decommissioning/>

### **The transformative role of AI in the energy sector**

<https://www.innovationnewsnetwork.com/the-transformative-role-of-ai-in-the-energy-sector/52898/>

### **[Of Interest] Improving English proficiency for scientific communication by non-fluent speakers**

<https://www.nature.com/articles/s41569-024-01102-1>

### **Recent Peer-Reviewed Articles of Interest**

#### **Introduction: Fusion, the next big thing—again?**

<https://www.tandfonline.com/doi/full/10.1080/00963402.2024.2419714>

#### **Application of machine learning for detecting and tracking turbulent structures in plasma fusion devices using ultra fast imaging**

<https://www.nature.com/articles/s41598-024-79251-z>

**Statistical theory of neutron-induced nuclear fission and of heavy-ion fusion**

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.110.054602>

**Coherent vortical structures in fluids and plasmas**

<https://pubs.aip.org/aip/pop/article/31/11/110401/3319514/Coherent-vortical-structures-in-fluids-and-plasmas>

**Analysis of the critical current and electromagnetic forces of HTS segments in multiple pairs of current leads used in the current lead box of a fusion reactor**

<https://www.sciencedirect.com/science/article/pii/S0011227524002042>

**Evolution of a laser wake cavity in a MCF plasma**

<https://www.nature.com/articles/s41598-024-77739-2>

**A compact X-ray source via fast microparticle streams**

<https://www.nature.com/articles/s44172-024-00323-z>