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Date: 23 Oct 2024

### **ITER Tokamak Complex fully painted**

<https://fusionforenergy.europa.eu/news/iter-tokamak-complex-painting-complete/>

### **Fusion machines advance in Spain and New Zealand**

<https://www.world-nuclear-news.org/articles/fusion-machines-advance-in-spain-and-new-zealand>

### **MAST Upgrade – helping answer the big questions in fusion physics**

<https://www.gov.uk/government/news/mast-upgrade-helping-answer-the-big-questions-in-fusion-physics>

### **MAST Upgrade advances fusion research**

<https://www.neimagazine.com/news/mast-upgrade-advances-fusion-research/>

### **Tokamak Energy gives details of pilot fusion energy plant design**

<https://world-nuclear-news.org/articles/tokamak-energy-gives-details-of-pilot-fusion-energy-plant-design>

### **In a Fusion Device Plasma, a Steep Ion Temperature Gradient Slows the Growth of Magnetic Islands**

<https://www.energy.gov/science/fes/articles/fusion-device-plasma-steep-ion-temperature-gradient-slows-growth-magnetic>

### **Zap Energy launches fusion prototype**

<https://www.neimagazine.com/news/zap-energy-launches-fusion-prototype/>

### **LLNL-led team receives ARPA-E funding for technology to enable fusion power plants**

<https://www.llnl.gov/article/51956/llnl-led-team-receives-arpa-e-funding-technology-enable-fusion-power-plants>

### **Nuclear fusion energy requires heat- and radiation-resilient materials to be reliable, says nuclear engineer**

<https://phys.org/news/2024-10-nuclear-fusion-energy-requires-resilient.html>

### **How artificial intelligence is powering the fusion revolution**

<https://www.rochester.edu/newscenter/artificial-intelligence-ai-laser-fusion-energy-research-622682/>

### **General Atomics launches fusion design tool**

<https://www.neimagazine.com/news/general-atomics-launches-fusion-design-tool/>

### **Loviisa back on line after outages**

<https://www.neimagazine.com/news/loviisa-back-on-line-after-outages/>

### **A Route Toward the Island of Stability**

<https://physics.aps.org/articles/v17/150>

### **Superconducting Technology can Pave the Way to a Carbon-Neutral Future and a Richer World**

<https://www.toshiba-clip.com/en/detail/p=4885>

### **Strengthening Ties in Fusion Science: Alain Becoulet Visits HFIPS**

[https://english.hf.cas.cn/nr/bth/202410/t20241015\\_691751.html](https://english.hf.cas.cn/nr/bth/202410/t20241015_691751.html)

### **Ethan Peterson: Smart handling of neutrons is crucial to fusion power success**

<https://web.mit.edu/nse/news/spotlights/2024/ethan-peterson.html>

### **Amazon invests in nuclear energy**

<https://www.neimagazine.com/news/amazon-invests-in-nuclear-energy/>

### **Japanese reactor cleared for use beyond 50 years**

<https://www.world-nuclear-news.org/articles/japanese-reactor-cleared-for-use-beyond-50-years>

### **DOE approves Aurora fuel facility**

<https://www.neimagazine.com/news/doe-approves-aurora-fuel-facility/>

### **US Department of Energy announces new Fermilab contractor**

<https://physicsworld.com/a/us-department-of-energy-announces-new-fermilab-contractor/>

### **China's nuclear innovation unlocked**

<https://www.neimagazine.com/analysis/chinas-nuclear-innovation-unlocked/>

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

#### **Radiative corrections to proton-proton fusion in pionless effective field theory**

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.110.L041001>

#### **Epitaxial growth of GaN on $\beta$ -Ga<sub>2</sub>O<sub>3</sub> via RF plasma nitridation**

<https://pubs.aip.org/aip/jap/article/136/15/155701/3316916/Epitaxial-growth-of-GaN-on-Ga2O3-via-RF-plasma>

#### **Development of the neutral gas diagnostic system for neutral pressure measurements and gas analysis on the SPARC tokamak**

<https://pubs.aip.org/aip/rsi/article/95/10/103517/3317011/Development-of-the-neutral-gas-diagnostic-system>

#### **Computational study of cathode plasma dynamics in high-power electron beam diodes by particle-in-cell simulations**

<https://pubs.aip.org/aip/pop/article/31/10/103904/3317003/Computational-study-of-cathode-plasma-dynamics-in>