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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 Newsline: 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/

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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

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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

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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