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Date: 25 June 2024

### 34th ITER Council - Updated baseline presented

https://www.iter.org/newsline/-/4052

Latest ITER Newsline: https://www.iter.org/whatsnew]

## IAEA Supports Fusion Research with a New Comprehensive Database

https://www.iaea.org/newscenter/news/iaea-supports-fusion-research-with-a-new-comprehensive-database

### **FIA Launches Commercializing Fusion Energy Paper**

https://www.fusionindustryassociation.org/fia-launches-commercializing-fusion-energy-paper/

Download the full

paper. https://drive.google.com/file/d/1x3AuRamw4j2FXvXC01fonDAQf7rVyQQV/vie

# Using ORNL's Frontier supercomputer, researchers discover new clues to improving fusion confinement

https://www.ornl.gov/news/using-ornls-frontier-supercomputer-researchers-discover-new-clues-improving-fusion-confinement

## Canada to accelerate fusion development

https://www.powerengineeringint.com/nuclear/canada-to-accelerate-fusion-development/

## Study reveals material erosion and deposition in fusion reactors

https://phys.org/news/2024-06-reveals-material-erosion-deposition-fusion.html

## Tokamak Energy to use digital twin technology for ST40 fusion machine testing

https://www.neimagazine.com/news/tokamak-energy-to-use-digital-twin-technology-for-st40-fusion-machine-testing/

### ITER's proposed new timeline - initial phase of operations in 2035

https://www.world-nuclear-news.org/Articles/ITER-s-proposed-new-timeline-initial-phase-of-oper

### Speed of sound in quark-gluon plasma is measured at CERN

https://physicsworld.com/a/speed-of-sound-in-quark-gluon-plasma-is-measured-at-cern/

### Fusion Ignition and the Path to Inertial Fusion Energy

https://lasers.llnl.gov/news/fusion-ignition-and-the-path-to-inertial-fusion-energy

# From Simulation to Reality: How JOREK Is Shaping the Future of Fusion Energy

https://euro-fusion.org/eurofusion-news/jorek2/

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Monte-Carlo Simulations of Plasma-Wall Interaction Using ERO2.0 https://euro-fusion.org/eurofusion-news/ee14/

US think tank reports China as world leader in nuclear energy innovation https://www.neimagazine.com/news/us-think-tank-reports-china-as-world-leader-in-nuclear-energy-innovation/

# Discovery of spontaneous inflow and outflow states of high-temperature plasma by energetic ions

https://www.eurekalert.org/news-releases/1048779

### Focus on reliability for coolant pumps

https://www.neimagazine.com/analysis/focus-on-reliability-for-coolant-pumps/

# Key mechanism in nuclear reaction dynamics promises advances in nuclear physics

https://phys.org/news/2024-06-key-mechanism-nuclear-reaction-dynamics.html

'Ghost Particles' Could Be The Secret Behind The Heaviest Elements https://www.sciencealert.com/ghost-particles-could-be-the-secret-behind-the-heaviest-elements

## Decommissioning of Finland's oldest research reactor complete

https://www.neimagazine.com/news/decommissioning-of-finlands-oldest-research-reactor-completed/

Holtec International gets grant for control rod drive system for nuclear reactor https://www.power-technology.com/data-insights/holtec-international-gets-grant-for-control-rod-drive-system-for-nuclear-reactor/

China, France launch satellite to better understand the universe https://phys.org/news/2024-06-china-france-satellite-universe.html

## NIF Takes a Quantum Leap into Elusive Metallic Hydrogen

https://lasers.llnl.gov/news/nif-takes-a-quantum-leap-into-elusive-metallic-hydrogen

World War Moon: Here's how a major lunar conflict could soon unfold <a href="https://www.sciencefocus.com/space/moon-wars">https://www.sciencefocus.com/space/moon-wars</a>

### Recent Peer-Reviewed Articles of Interest

# Quantum mechanical evolution of electron's Landau state in the dissipative magnetic field

https://pubs.aip.org/aip/adv/article/14/6/065031/3299107/Quantum-mechanical-evolution-of-electron-s-Landau

## Improvements of NET/ITER shielding to limit short-term radioactivity in magnet materials

https://www.sciencedirect.com/science/article/pii/092037969190150O

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X-ray Thomson scattering absolute intensity from the f-sum rule in the imaginary-time domain

https://www.nature.com/articles/s41598-024-64182-6