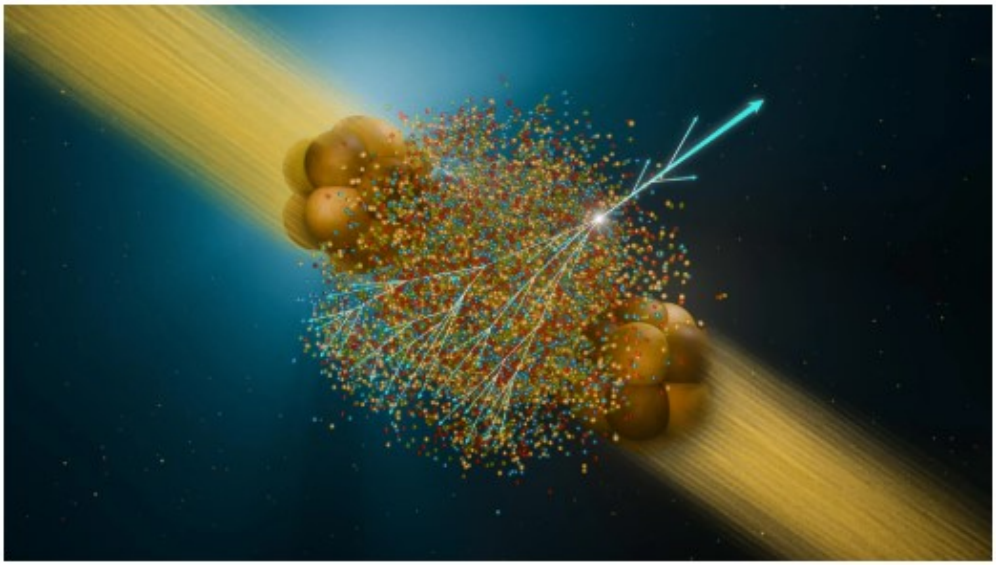
# Primordial Matter at RHIC

**Prelims:** *Current events of National and International Importance*

## Why in News?

*Scientists with the STAR experiment at the Relativistic Heavy Ion Collider (**RHIC**) at Brookhaven National Laboratory announced evidence that oxygen-nucleus collisions can recreate quark-gluon plasma (QGP), a hot, dense primordial state of matter from the early universe.*

- **The Experiment–** Researchers analyzed oxygen-oxygen collision data recorded at RHIC in 2021 at 200 billion electron volts (**GeV**).
- **Jet Quenching–** Scientists observed roughly a **20% suppression** of high-energy particles due to jet quenching—an effect where energetic particle jets lose energy as they plow through dense QGP.
- **Lower Boundary–** This discovery establishes a new, lower-energy boundary for producing QGP in smaller, lighter collision systems compared to heavier ions like gold or lead.
- **RHIC's Legacy–** These measurements come from one of the final runs of RHIC, which operated from 2000 until early 2026 before transitioning toward the future Electron-Ion Collider.



## Reference

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