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SHINE achieves ‘milestone moment’ in developing fusion technology

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The head of the American Nuclear Society is congratulating Janesville-based SHINE Technologies for achieving a “milestone moment” in developing fusion technology.

The company yesterday announced it has demonstrated visible Cherenkov radiation produced by fusion “for what is believed to be the first time in history,” according to the release. This form of energy produces a blue glow, which results from charged particles moving faster than the speed of light through water.

That’s possible because light travels at about 75 percent of its normal speed through water, the company says. The particles moving faster than that create a shock wave as they slow down, releasing energy in the form of the blue glow. SHINE Technologies has released a photo and video of this occurring.

“Seeing the Cherenkov radiation produced by SHINE’s fusion-driven device is exciting progress in the advancement of fusion technology,” American Nuclear Society CEO Craig Piercy said in a statement. “Getting in-the-field data and reaching these milestones will help prove the long-term potential of fusion energy.”

While Cherenkov radiation has been observed at fission reactors operating around the world, a UW-Madison fusion expert says SHINE’s results are “powerful evidence of nuclear processes at play and further proof that fusion can produce neutrons” on par with some reactors.

“The Cherenkov radiation effect produced here was bright enough to be visible, which means there’s a lot of fusion happening, about 50 trillion fusions per second,” said Gerald Kulcinski, Grainger professor of nuclear engineering-emeritus at the university. “At a billion fusions per second, you might have measurable Cherenkov radiation but not visible amounts.”

SHINE’s release notes fusion has historically been demonstrated and detected through instruments, rather than visible light.

The company's founder and CEO, Greg Piefer, says the potential for fusion technology has "long captured the imagination of" both scientists and the public.

"To be able [to]create visual evidence of fusion is just really cool," he said. "This visible demonstration of fusion is proof that we are able to produce enough reactivity for some commercial applications historically served by reactors, and clearly demonstrates the next step in our multi-phased approach to ultimately commercialize fusion energy."

See more on that approach here: https://www.shinefusion.com/phases

See the release: https://www.prnewswire.com/news-releases/shine-technologies-achieves-visible-proof-of-fusion-301892772.html

–By Alex Moe