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How does a tiny beam of light make a nuclear power plant safer?

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How does a tiny beam of light make a nuclear power plant safer?

A fission reactor to a nuclear power plant is a heart to a human body. The safe and effective operation of a plant depends on the health of the reactor. One can easily monitor the conditions of the heart through a cardiac exam through blood pressure (via blood pressure gauge) and heart sounds (stethoscope). It is more difficult to assess the conditions of a reactor due to its high-temperature and high-pressure operational environments. My research is to investigate innovative ways to acquire critical information on the reactor using Fiber Optic Sensors (FOSs) by shining a tiny beam of light into otherwise difficult-to-reach places, to unveil the true conditions of the reactor. Yes, my research would make it possible to enhance the safety of nuclear power plants through a tiny beam of light.