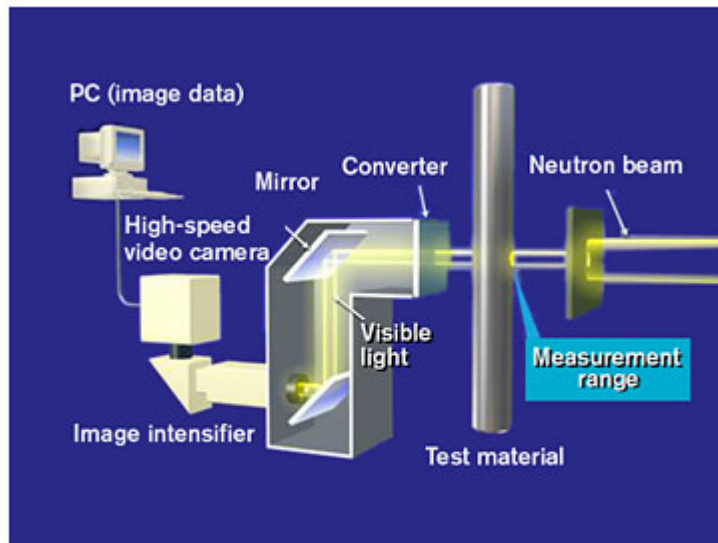


Nissan, JAEA to Jointly Develop System to Visualize Lubricating Oil Behavior: World's First Precision High-speed Neutron Imaging System

On November 10, Nissan Motor Co. and the Japan Atomic Energy Agency (JAEA) announced that they would begin the joint technology development to use neutron radiation to visualize lubricating oil behavior inside an automobile engine and driveline. It will be the first such attempt ever, and is expected to contribute to reducing friction loss and ultimately CO2 emissions from automobiles.



Imaging diagram for neutron visualization in a nuclear facility

The two parties have already confirmed that neutrons can be passed through water or oil in a light-metal container, and that the flow can be visualized in slow motion using high-speed neutron radiography.

Making use of its know-how in measuring neutron radiation, JAEA will develop an imaging system suitable for engines, etc., as well as a method to analyze fluid behavior. Nissan will be responsible for applying the technology to the design of engines, producing the engine-imaging system, and conducting visualization tests using an actual engine. Both will use JAEA's research reactor, the Japan Research Reactor No. 3 (JRR-3).

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