

## **Quantum beams accelerate R&D of automotive industry**

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Automobiles consist of a variety of structural and functional materials, such as metallic alloys, semiconductors, insulators, resins and their composites. Understanding of their chemical and physical behaviours with the mechanism on board will help producing desirable vehicles in the 21st century. Quantum beams help us with precise and effective research and development for the components and systems of automobiles, since such beams illuminate the phenomena that happen inside. Our company, Toyota Central R&D Labs., Inc., has made the most use of such quantum beams as synchrotron xray, neutron and so on. Diffraction, tomography, reflectivity and more are attractive tools for us. This talk will introduce you to our examples by the quantum beams, including outputs from our unique 'Toyota beamline' at SPring-8 synchrotron facility