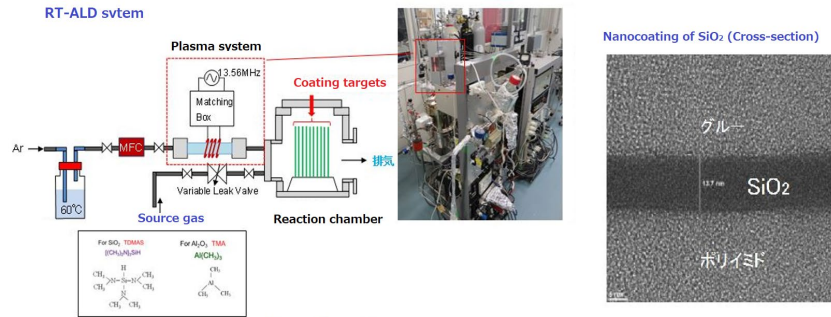


Atomic level control for hetero interfaces and its application to devices

Professor Fumihiko Hirose

Room temperature atomic layer deposition



Content: Room temperature atomic layer deposition (RT-ALD): This is a coating method of metal oxide at low temperatures. Since this makes use of the gas saturation mechanism, it is possible to grow the material with an atomic scale thickness control. In this laboratory, the room-temperature process was developed and its device application is studied. The thin oxide metal film deposited by the RT-ALD is effective in enhancing the carrier separation in solar cells, which could contribute to the enhanced power generation.

Application for thin film transistors (TFTs): RT-ALD allows for nanometer thick metal oxide film. The nanosized material might include new functions in the conventional devices. In this laboratory, the high sensitive UV sensing was developed with the nanometer thick TiO₂ films. We are going to apply the present technique to flexible electronics.

Appealing point: Any inquiries are welcome.

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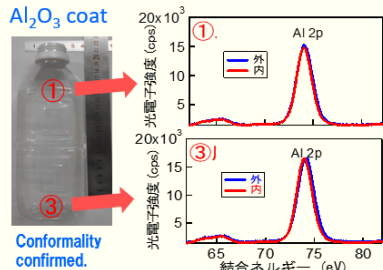
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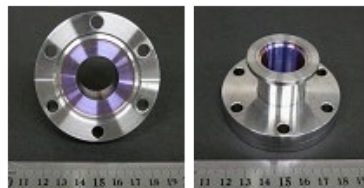
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PET bottle coating



Metal part coating



TFT type UV sensor

