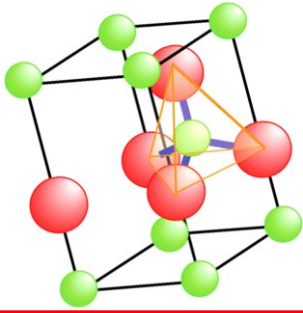


High-temperature Physical Chemistry of Materials (Fukuyama Lab)

Environment and Energy Engineering course



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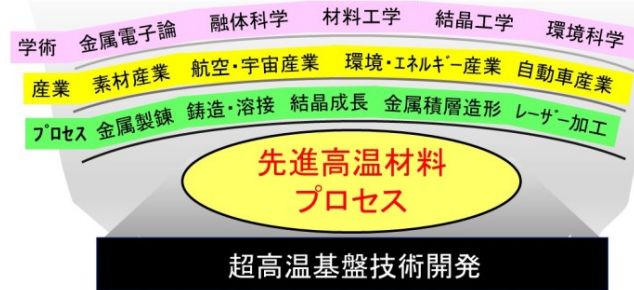
We contribute to energy issue based on mechanical engineering and materials science.

Research fields - key words:

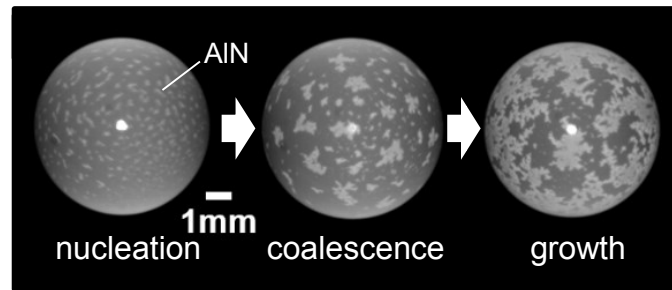
functional materials processing; thermodynamics; physical chemistry; thermophysical properties of melts; crystal growth

Research themes:

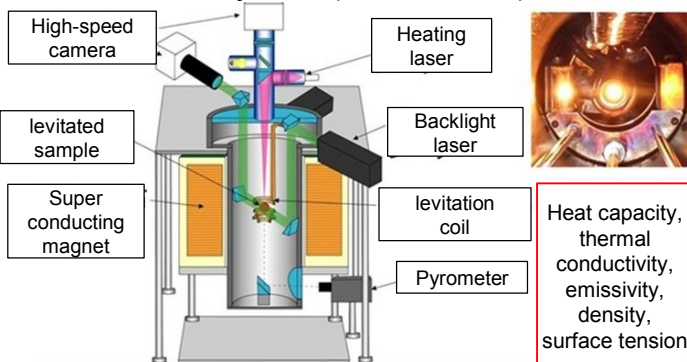
- crystal growth and physical chemistry of III-nitrides
- development of thermophysical property measurement system for high temperature melts
- development of high-temperature material processing
- thermophysical property measurement of high-temperature materials



flexible ideas \Rightarrow novel material development



High-temp. thermophysical property measurement system (PROSPECT)

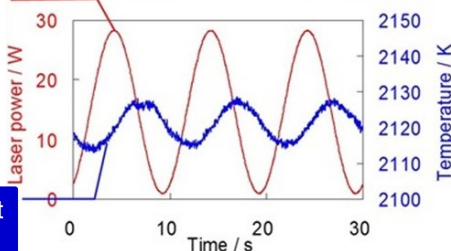


Heat capacity, thermal conductivity, emissivity, density, surface tension

Modulation laser calorimetry

modulation heating by laser irradiation

temp. measurement by pyrometer



- Aerospace industry: developments of turbine blade materials for jet engine
- Energy industry: materials development for power plants
- Semiconductors and materials industry: crystal growth, solidification, casting
- Automotive industry: precise welding technology



We warmly welcome visitors!