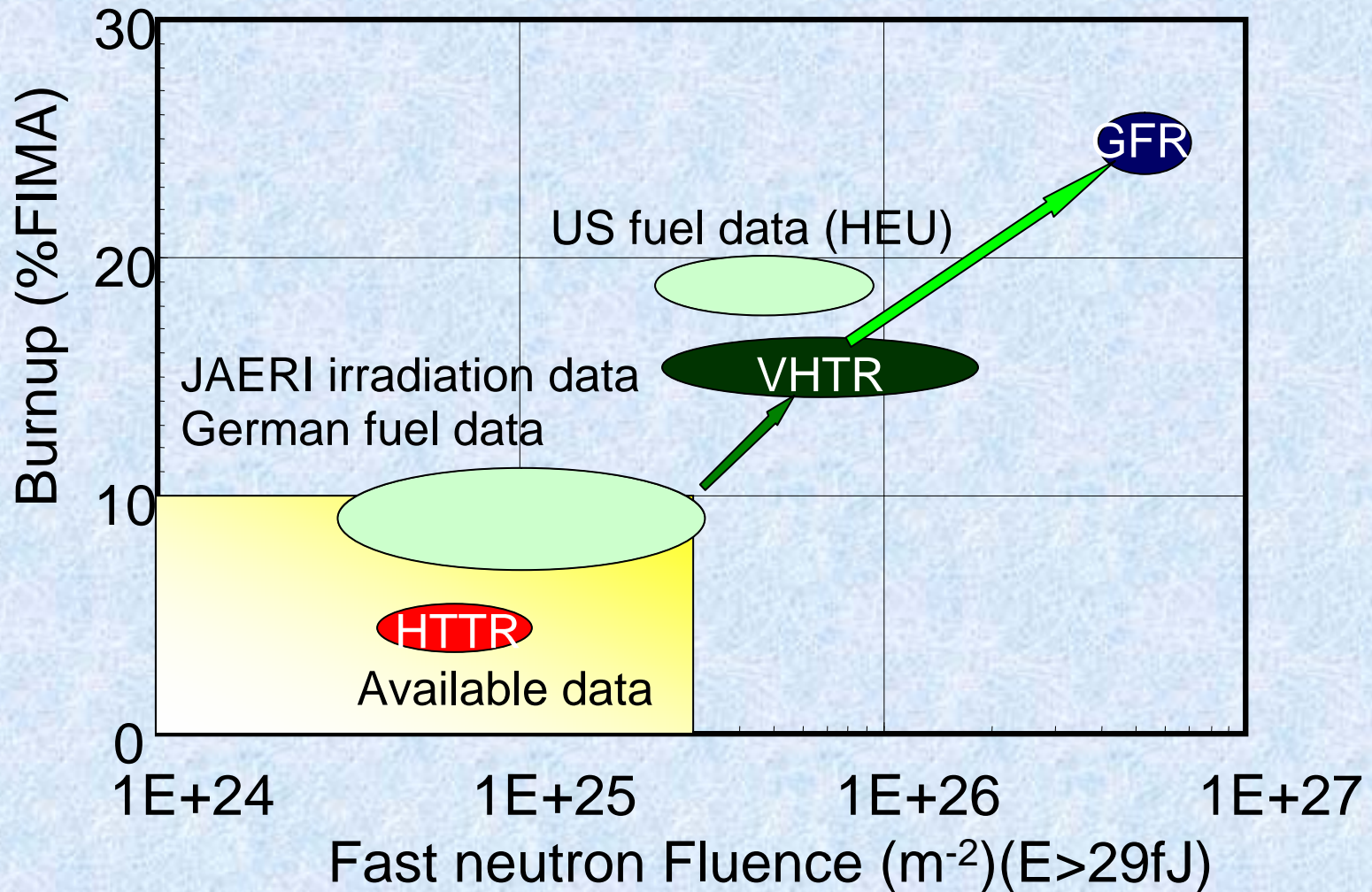


Directions and Developments Development Needs and Requirements for HTGR Fuel

Kazuhiro SAWA
Department of HTTR Project
Japan Atomic Energy Research Institute

Target of Future HTGR Fuels

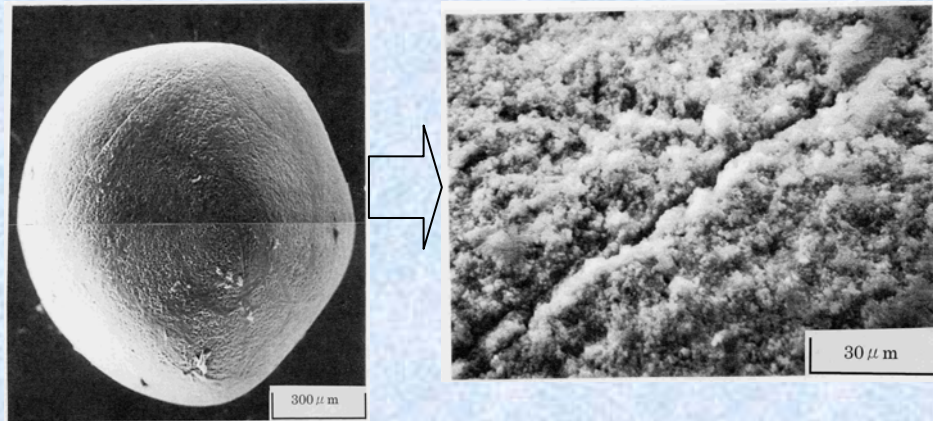


Important R&D items for Future HTGR Fuel

- Inspection standard (items, methods, sampling rates)
- Burnup extension (irradiation and post-irradiation tests)
- Material data (PyC, SiC, etc.) for fuel behavior modeling
- Safety related tests to establish fuel design criteria
- Advanced coating development (ZrC-coating, etc.)
- Fuel behavior during long-term repository
- Fuel reprocessing (head-end process, MOX fuel technology)

Limited Sources for R&D

- Irradiation Tests
 - use of irradiation reactor and facilities effectively
- Post-irradiation Tests
 - use of PIE facilities effectively
 - development of new PIE technologies to obtain precise material data for fuel behavior modeling



- Modeling
 - development of world-standard model for regulation

should be proceed under international cooperation