PARTICLE SIMULATION ON MERGING PROCESSES OF TWO SPHERICAL TOKAMAK-TYPE PLASMOIDS IN A CONDUCTING VESSEL (S. USAMI, ET AL.)

- By means of a new **particle simulation model** (Fig.1) which mimic the entire region of a poloidal surface in an ST, plasma merging processes are studied.
- **Macroscopic viewpoints:**
  - Ion heating is a global process as show in Fig. 2.
  - **Compressional heating** is dominant during merging, and **viscous heating** is dominant after merging.
  - While high-temperature region is spread due to diffusion/transport.
- **Microscopic viewpoints:**
  - The compressional heating consists of genuine heating due to compression and effective heating by **the Pick-Up-Like process**, while the viscous heating likely is based on a different type of effective heating.
  - Our simulation results are in a good agreement with experimental results of TS-6 in University of Tokyo.