- Title: Effects of modified surfaces produced at plasma-facing surface on hydrogen and helium release behavior in the LHD
- Purpose: To clarify the relationship between deuterium (D) and helium (He) desorption behavior at the top surface of modified layer and surface condition in the LHD.
- Experiments: An additional D and He ion irradiations were performed against long-term samples mounted on plasma-facing surface in the LHD.
- Highlights of results:
  - ✓ In erosion area, D desorbed at lower temperatures compared to deposition area. This suggest that hydrogen release in erosion area could be significant when wall temperature increases in long-time discharge in the LHD.
  - ✓ D desorption behavior was different from that of H retained during LHD plasma discharge. This indicates that hydrogen desorption behavior at the top surface could be different from that at deep region.
  - ✓ In contrast, He desorption in erosion area occurred at high temperatures compared to deposition area.