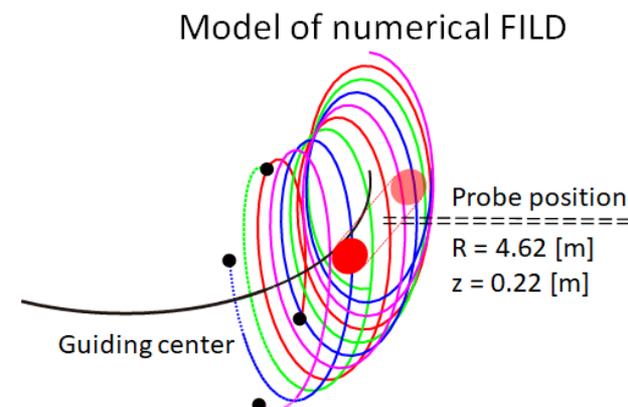
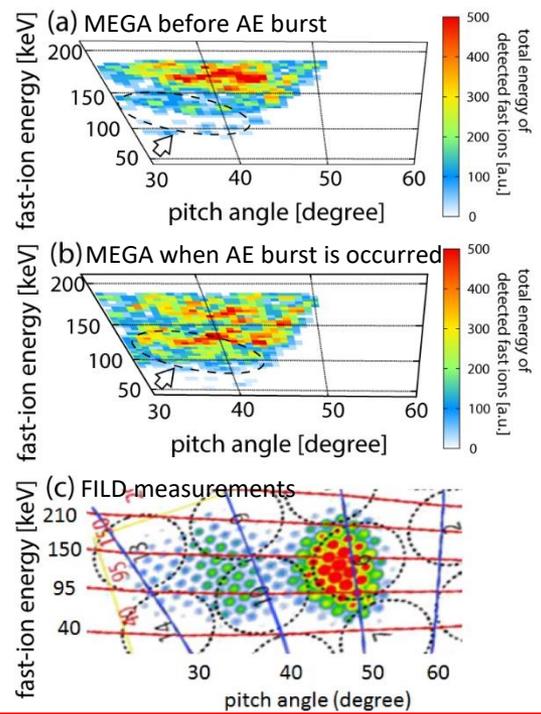
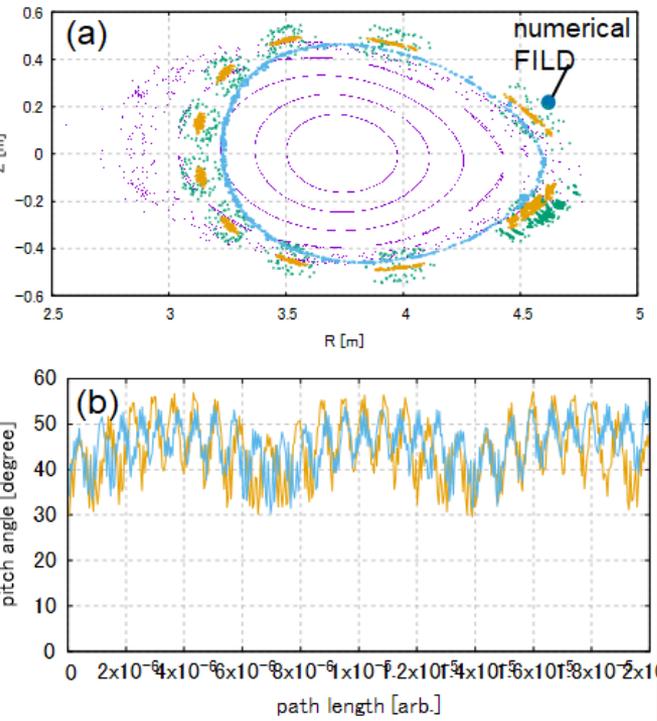


Hybrid simulations of fast ion transport and losses due to the fast ion driven instabilities in the Large Helical Device R. Seki (NIFS) ID:720

Lost fast ion velocity distribution in the MEGA simulation with “numerical FILD” is compared with the FILD.

- gyro center of the detected fast ion
- gyro center of the fast ion before the hybrid phase
- Lorentz orbit of the detected fast ion
- Magnetic field line



Fast ion orbit near FILD is retraced by using Lorentz orbit. **64 Lorentz orbit particle** are traced.

The velocity space region of lost fast ions calculated by MEGA is close to the lost fast ion measurements by FILD.

- The fast ion transported to stochastic region was detected by “numerical FILD” when AE burst occurred .
- Most of the detected fast ions are re-entering fast ions whose orbits are the closed drift surface.

Fig. (a) Poincaré plot of fast ion detected by “numerical FILD” on the poloidal plane for the install position of “FILD”. (b) pitch angles.