Study of toroidal flow generation by ECH in HSX plasma

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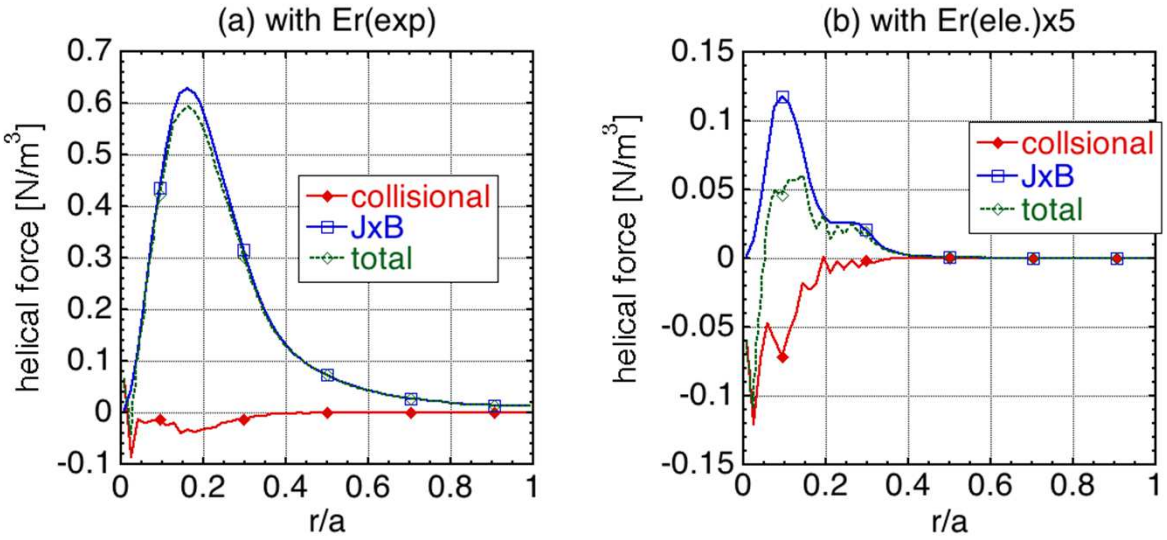
*This work was supported by JSPS Core-to-Core Program Advanced Research Networks (PLADyS) and Japan/U.S. Cooperation in Fusion Research and Development.

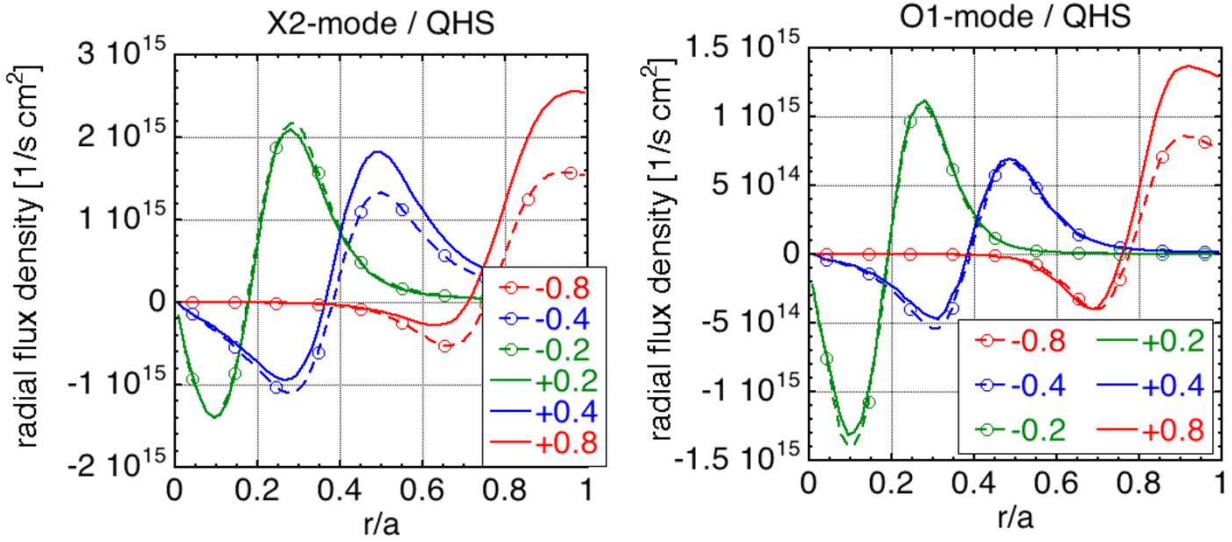
(i) Effect of Er



- ✓Strong ExB flow suppresses electrons' trapped orbit.
- ✓Strong Er makes weak the JxB force, and the JxB and collisional forces are comparable.
- ✓With the experimental Er, the collisional force is ignorable.

(ii) Polarization & off-axis Effect

* r/a= ±0.8, ±0.4, ±0.2
Minus : magnetic hill
Plus: magnetic well



- ✓X-mode ECH tends to generate larger radial flux than O-mode ECH because X-mode generates more trapped particles.
- ✓The radial flux in X-mode case is more subject to the heating position because O-mode generates more passing particles and they will spread over the flux surface after their resonance.