

Relation of plasma flow structures to particle tracer orbits

- Clear correlation between the radial extent of the flow structures and the radial excursions of the tracer particles during their trapping phase.
- The trapping of tracers seems to be due to trapping on finite size filaments including multiple possible trappings.
- In evolving turbulence, the distribution of trapping times of the tracers is related with the distribution of lifetimes of the cycles in the flow structure.
- Next step: to construct a transport theory based on the CTRW approach and use the information we obtained in characterizing the tracer particle properties.