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C 会場 ：11/25　PM2 （15:30-18:15）
18:00〜18:15

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On cross-helicity dependence of fluid particle diffusion in shear Alfvenic turbulence

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It is well known that the cross-helicity of solar wind magnetohydrodynamic turbulence has radial dependence, while its influence on the other statistical characteristics of turbulence has not been fully understood. In this presentation, we discuss the diffusion of fluid particles in the synthetic shear Alfvenic turbulence by using the kinematic simulation [e.g., Kraichnan, 1970; Fung+Vassilicos, 1998]. While the mean square displacement of fluid particles just shows clear scaling laws by Taylor [Taylor, 1921; Bian+Li, 2024] in uni-directional , quasi-two dimensional limit, the existence of counter-propagating waves can affect such a characteristic of diffusion. The influence of cross-helicity and wave-number spectra on the fluid particle diffusion will be discussed in detail.