Effect of the cross frequency on the transport in the fusion plasmas CHAN-YONG AN, BYUNGHOON MIN, CHANG-BAE KIM, Soongsil University — The cross phase δ, i.e. the difference of the phase between the electric potential ϕ and the pressure p_e, is studied in the electromagnetic resistive drift turbulence. An evolution equation for δ is obtained in the Fourier space that includes the energy-non-transporting fluxes due to $E \times B$ and magnetic nonlinearities. BOUT++ platform [1] is used for the simulation until the steady state of the model is reached. The thermal transport Γ is found to be proportional to $|p_e|^2 \cdot \delta$ and $\dot{\delta}$ is much smaller than the frequencies of ϕ and p_e. The effect of zonal flows on δ will be presented at the conference. [1] B. D. Dudson, M. V. Umansky, X. Q. Xu, P. B. Snyder, and H. R. Wilson, Comp. Phys. Comm. 180 1467 (2009)

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