

Abstract Submitted  
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**Electromagnetic gyrokinetic simulation of turbulent transport  
in high ion temperature discharge of Large Helical Device<sup>1</sup>** AKIHIRO

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NORIYOSHI NAKAJIMA, National Institute for Fusion Science — Turbulent trans-  
port in a high ion temperature discharge of Large Helical Device (LHD) is inves-  
tigated by means of electromagnetic gyrokinetic simulations including kinetic elec-  
trons. A new electromagnetic gyrokinetic simulation code GKV+ enables us to  
examine electron heat and particle fluxes as well as ion heat flux in finite beta  
heliotron/stellarator plasmas [1]. This problem has not been previously explored  
because of numerical difficulties associated with complex three-dimensional mag-  
netic structures as well as multiple spatio-temporal scales related to electromagnetic  
ion and electron dynamics. The turbulent fluxes, which are evaluated through a  
nonlinear simulation carried out in the K-super computer system, will be reported.

[1] A. Ishizawa, et.al., Nuclear Fusion 53, 053007 (2013).

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