

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Using Electron Cyclotron Emission Images to localize the drive and damping of Alfvén eigenmodes¹ GERRIT KRAMER, PPPL, BEN TOBIAS, LLNL, ALAN TURNBULL, GA, CALVIN DOMIER, NEVILLE LUHMANN, UCD — Alfvén Eigenmodes (AE) are routinely imaged in DIII-D with the Electron Cyclotron Emission Imaging system (ECE-I). From the ECE-I images it was found that the AE wave fronts show a clear radial phase variation, which reflects a radial plasma displacement that is induced by the AEs. We use the measured plasma displacement to extract the fluctuating electric and magnetic fields and use these fields to calculate the Poynting flux to determine radial wave-induced energy flows for saturated AEs. These energy flows arise when the drive of the mode does not coincide with the location of the damping of the mode. We will use the measured curved AE wave fronts to determine the radial energy flow that is induced by the AEs and show that the location of fast-ion drive of the AEs does not coincide with the location of the strongest damping of the mode.

¹DOE grants DE-AC02-09CH11466 & DE-FC02-04ER54698

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Date submitted: 21 Jul 2017

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