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Measurements of energy loss in the scrape-off layer of C-2U M.E. GRISWOLD, S. KOREPANOV, M.C. THOMPSON, Tri Alpha Energy, THE TAE TEAM TEAM — We report on measurements of energy transport in the scrape-off layer (SOL) plasma that surrounds the advanced beam-driven field reversed configuration (FRC) of the C-2U experiment at Tri Alpha Energy. The SOL plasma is trapped on mirror-like open field lines outside of the FRC separatrix that connect to material surfaces at both ends of the vacuum vessel. Heat transport in this region is expected to be convective, like in mirror machines, and can be characterized by the amount of energy lost per electron-ion pair. We measured this value with an end loss analyzer system that consists of gridded ion energy analyzers that measure ion current density and pyroelectric crystal bolometers that measure total particle power flux.

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