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**Vlasov Fokker Planck Study of Electron Dynamics in the Scrape Off Layer with Expander Divertor** S. GUPTA, P. YUSHMANOV, THE TAE TEAM, Tri Alpha Energy, D. C. BARNES, Coronado Consulting — Control of electron heat losses in the open field region surrounding a Field Reversed Configuration (FRC) is important for sustaining higher temperatures in the FRC core, for favorable beam energy deposition, and for reducing loads on divertor plates. At TAE, a magnetic expander will be used to attain these objectives in the new C-2W machine and to comprehensively study expander divertor physics. The electron dynamics and electrostatic potential formation in the expanding magnetic field is analyzed using a 3-D (2 velocity and 1 spatial) Vlasov Fokker Planck code (Ksol). Numerical results showing the effect of collisionality, current,  $Z_{\text{eff}}$ , incoming distribution etc., on the formation of electrostatic potentials will be presented.

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