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RF transfer of momentum and angular momentum in FRC plasmas FRANCESCO CECCHERINI, LAURA GALEOTTI , DAN BARNES , SEAN DETTRICK , KEVIN HUBBARD, XIAOKANG YANG, THE TAE TEAM , TAE Technologies Inc. — TAE Technologies RF code, RF-Pisa, is deployed to study the transfer of momentum and angular momentum from RF waves to plasma species in an FRC configuration. In particular we address the possibility to enhance the efficiency of the wave-plasma coupling through the utilization of advanced plasma schemes which allow to control the wave polarization and to select narrow resonance regions. The frequency range of interest for our investigation is the ICRH regime. Together with single mode analyses we will carry out a 3D reconstruction to study (i) the effects due to realistic and finite size antennas and (ii) the role of the straps phase in defining the resonance volumes and efficiency. Finally, the feasibility to utilize RF in FRCs for current drive will be discussed.

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