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**Development of Integrated Modeling for Field-Reversed Config-
uration Design** HUA-SHENG XIE, SHUYING SUN, YANG LI, BIN CHEN,
SHIKUI CHENG, HONGFEI DU, ENN Science and Technology Development
Co.,Ltd. — An integrated modeling suite for Field-Reversed Configuration (FRC)
design is being developed at ENN, consisting of (1) coils and magnetic field design
module; (2) fixed and free boundary MHD Grad-Shafranov equilibrium solver; (3)
nonlinear 2D resistive MHD solver; (4) 1D linear gyrokinetic drift instability code;
(5) magnetic and liner compression module; (6) 1D Finite-Lamor-Radius (FLR) and
2D MHD linear instability solvers; (7) single particle full kinetic orbit solver; and
(8) other fusion relevant modules. In addition to these modules listed above, a pow-
erful general kinetic dispersion relation solver BO [H. S. Xie , BO: A unified tool for
plasma waves and instabilities analysis, Computer Physics Communications, 2019,
https://doi.org/10.1016/j.cpc.2019.06.014.] has also been developed to study the
physics issues in FRC, such as the high frequency loss-cone instability and lower-
hybrid drift instability in FRC.

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