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**Particle-in-cell simulations of lower hybrid waves in plasmas** DE-HUI LI, NONG XIANG, DENG ZHOU, Institute of Plasma Physics, Chinese Academy of Sciences, XUEYI WANG, YU LIN, Physics Department, 206 Allison Laboratory, Auburn University — In this work, simulations based on the GeFi framework [Lin et al., 2005] are conducted to study the nonlinear wave-plasma interactions. The obtained dispersion relation is in excellent agreement with the linear theory prediction. When the wave power is sufficiently high, the parametric decay instability is observed.

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