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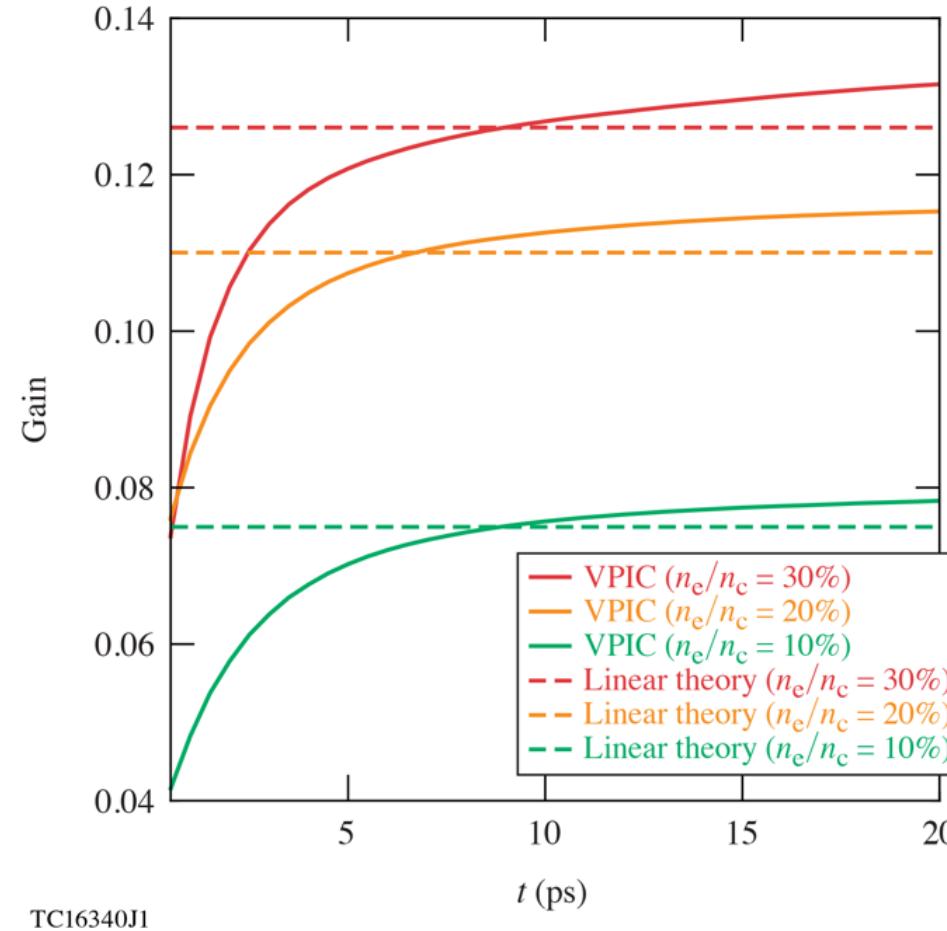
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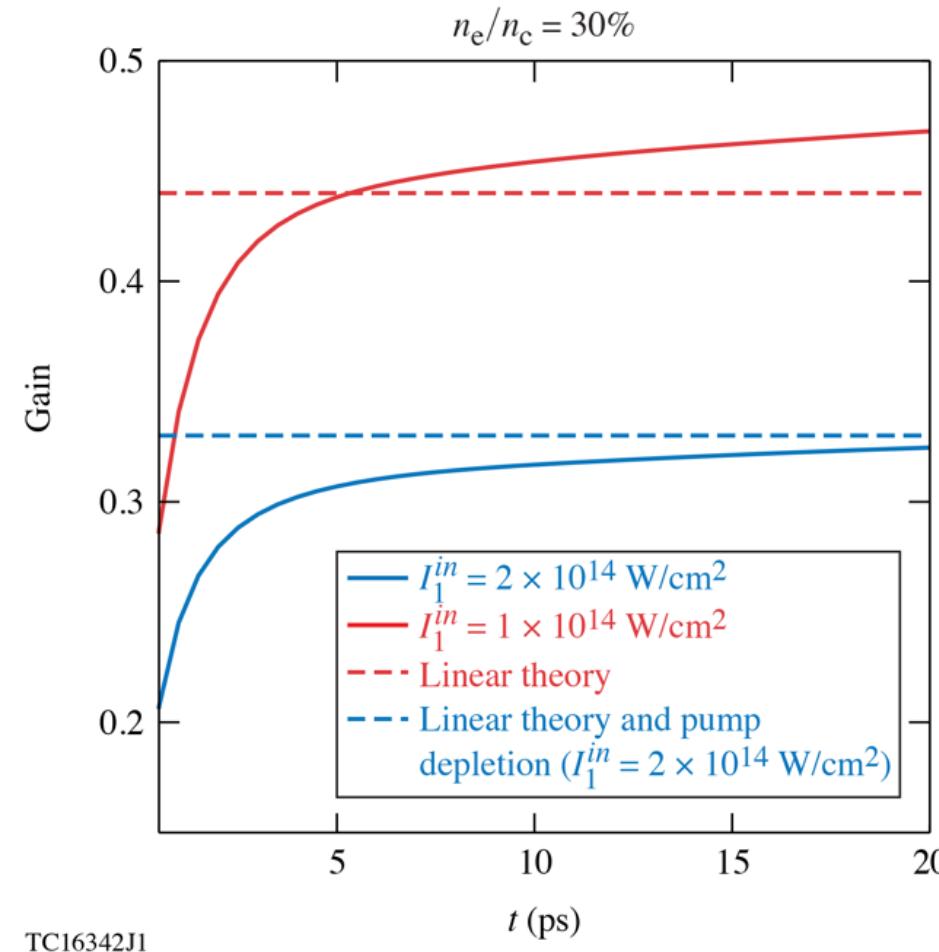
# 2022 IC report viewgraph

# VPIC gain is in excellent agreement with the linear kinetic theory for the laser intensities relevant to OMEGA implosions

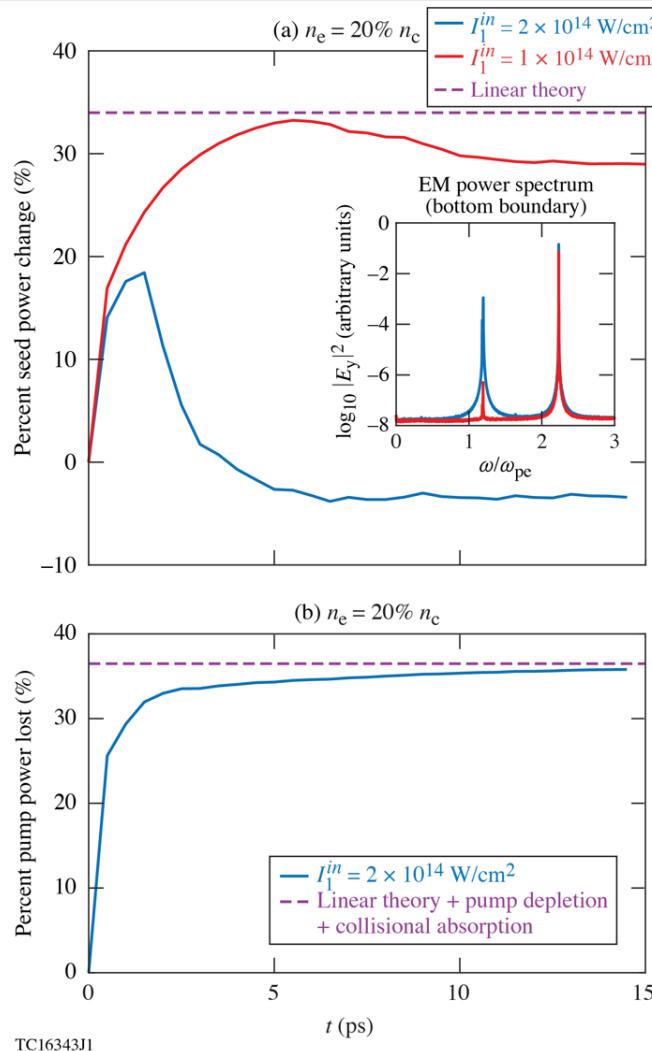


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At high plasma density,  $n_e = 0.30 n_{cr}$ , CBET saturates due to pump depletion for higher seed intensity



At intermediate densities,  $n_e = 0.20 n_{cr}$ , the seed undergoes Raman backscattering, which reduces the apparent energy transfer



- Despite SRS backscattering of the seed, the energy lost from the pump beam is in good agreement with the linear theory, pump depletion and collisional absorption

At low plasma densities,  $n_e = 0.10 n_{cr}$ , the gain is enhanced for higher seed intensity due to ion trapping

