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Vlasov Simulations of Ladder Climbing and Autoresonant Acceleration of Langmuir Waves[1] KENTARO HARA, Texas A&M University, IDO BARTH, Princeton Plasma Physics Laboratory, EREZ KAMINSKI, Birmingham-Southern College, ILYA DODIN, NATHANIEL FISCH, Princeton Plasma Physics Laboratory, Princeton University — The energy of plasma waves can be moved up and down the spectrum using chirped modulations of plasma parameters, which can be driven by external fields. Depending on the discreteness of the wave spectrum, this phenomenon is called ladder climbing (LC) or autroresonant acceleration (AR) of plasmons, and was first proposed by Barth *et al.* [Barth *et al.* PRL **115** 075001 (2015)] based on a linear fluid model. Here, we report a demonstration of LC/AR from first principles using fully nonlinear Vlasov simulations of collisionless bounded plasma [Hara *et al.* PoP **22** 022104 (2015)]. We show that, in agreement to the basic theory, plasmons survive substantial transformations of the spectrum and are destroyed only when their wave numbers become large enough to trigger Landau damping.

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