1154-60-1685 **Elliot Paquette*** (paquette.30@osu.edu) and **Gaultier Lambert** (glambert@kth.se).

Distributional approximation of the characteristic polynomial of a Gaussian beta-ensemble.

Conjecturally, the characteristic polynomials of many canonical classes of random matrices converge to universal random measure, the Gaussian multiplicative chaos. We develop machinery towards showing this convergence for the Gaussian beta–ensemble. We start from a standard representation for this polynomial as an entry in a product of independent random two–by–two transfer matrices. For a point z in the complex plane, at which the transfer matrix is to be evaluated, this product of transfer matrices splits into three independent factors, each of which can be understood as a diffusively perturbed dynamical system. Conjecturally, these factors converge to an exponential of a Gaussian field, the stochastic Airy function, and a diffusion similar to the stochastic sine equation. We show partial progress in establishing this conjecture, by giving an effective approximation for the polynomial that holds in the complex plane. (Received September 16, 2019)