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Jeff Achter*, Department of Mathematics, Colorado State University, Fort Collins, CO 80523-1874, and **S. Ali Altug, Luis Garcia** and **Julia Gordon**. *Equidistribution counts abelian varieties*.

An isogeny class of elliptic curves over a finite field is determined by a quadratic Weil polynomial. For each rational prime ℓ , one could compute how likely it is that a random ℓ -adic matrix has the specified characteristic polynomial, and compare this to the average among all characteristic polynomials. An irrationally exuberant interpretation of equidistribution might lead one to believe that the product, over all ℓ , of this quantity might somehow compute the size of the isogeny class. Gekeler actually proved that this relation holds.

I will explain a new, transparent proof of this formula, as well as its generalization to principally polarized abelian varieties of arbitrary dimension. (Received September 15, 2019)