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Stable homotopy theory singles out the Witten genus, also called the “sigma orientation”, for special attention among elliptic genera. On the other hand, the work on orbifold elliptic genera has focused attention on the two-variable elliptic genus, as in for example Eguchi-Ooguri-Taormina-Yang. We explain the relationship between the sigma orientation and the two-variable elliptic genus. Along the way, we introduce a genus of SU-manifolds taking values in *arithmetic* Jacobi forms. When the arithmetic Jacobi form is evaluated on the Tate curve, the result is the two-variable genus. (Received August 14, 2006)