

Meeting: 1001, Evanston, Illinois, SS 13A, Special Session on Algebraic Topology: Interactions with Representation Theory and Algebraic Geometry

1001-55-276 **David Gepner*** (gepner@uiuc.edu), Department of Mathematics, 1409 W. Green Street,
Urbana, IL 61801. *The Circle-Equivariant Sigma Orientation*. Preliminary report.

Let E be an even periodic ring spectrum. By the Thom isomorphism, $E^0MU\langle 6 \rangle$ is canonically identified with the sections of a naturally occurring line bundle over $\text{spec } E^0BU\langle 6 \rangle$. We describe this line bundle in terms of a description of $\text{spec } E^0BU\langle 6 \rangle$ due to Neil Strickland. We identify the subset of ring maps from $MU\langle 6 \rangle$ to E with the set of cubical structures on the formal group of E , giving a new proof of a result of Ando-Hopkins-Strickland. This formulation has the advantage that it generalizes naturally to the S^1 -equivariant case. (Received August 29, 2004)