1120-55-170   **M. Naeem Ahmad*** (`ahmadn@smcsc.edu`). *Complex N-Spin bordism and elliptic genera.*

We give a complete bordism analysis of rational bordism groups of semifree circle actions on complex N-Spin manifolds. Moreover, we introduce the notion of a complex N-Spin^{c,t} manifold and give a characterization of cobordism groups of such manifolds which we use to compute the rational bordism groups of free circle actions of type t on complex N-Spin manifolds. Furthermore, we exploit this bordism analysis to furnish a mechanism with which we investigate a description, in terms of kernels of complex elliptic genera, of the ideal $I_*^{N,t}$, generated by bordism classes of connected complex N-Spin manifolds admitting an effective circle action of type t, in the rational complex N-Spin cobordism ring $\Omega_*^{U,N} \otimes \mathbb{Q}$. This work is part of a paper to appear in Homology, Homotopy and Applications. (Received February 21, 2016)