

The Stiefel-Whitney classes of a moment-angle manifold are trivial

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If a moment-angle complex Z_K is a smooth manifold, we can easily see that Z_K is null-cobordant (i.e. $Z_K = \partial M$ for some manifold with boundary M) and therefore the Stiefel-Whitney numbers of Z_K are trivial. This observation naturally leads us to ask the question: Are the Stiefel-Whitney classes of a moment-angle manifold also trivial? In this talk, I'd like to show that this problem can be solved affirmatively. Note that, by introducing the notion of Stiefel-Whitney classes for topological manifolds due to Fadell, we can consider this problem for the moment-angle manifolds which are topological manifolds, not only for smooth ones. For such cases, the problem is also solved affirmatively. Moreover, we also consider the Stiefel-Whitney classes of a partial quotient of a moment-angle manifold.