Title: On the Central Charge of an Integral Modular Category

Abstract: A result of C. Vafa asserts that in any modular category, the central charge is a rational number. We show that, if the dimensions of the simple objects are integers, this result can be considerably strengthened: The central charge then is itself an integer. Moreover, if the global dimension of the category is odd, then the central charge is in fact even.

These assumptions are in particular satisfied if we are considering the representation category of a semisimple factorizable Hopf algebra over an algebraically closed field of characteristic zero. In the talk, we also explain what these results mean for this special case. The talk is based on joint work with Yongchang Zhu.