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Miodrag Cristian Iovanov* (iovanov@usc.edu), **Geoffrey Mason** (gem@ucsc.edu) and **Susan Montgomery** (smontgom@math.usc.edu). *Frobenius Schur indicators of Symmetric Tensor Categories and Doubles of Groups*. Preliminary report.

The Frobenius-Schur indicators of a group are classical invariants associated to a group. They were generalized to semisimple Hopf algebras by Montgomery and Linchenko, and then to tensor categories by Mason, Ng, Schauenburg. These indicators proved to be very useful and powerful invariants for such categories. For example, the generalized FS indicators can distinguish between nonequivalent tensor categories which have the same fusion rules (character ring). In general, these invariants are algebraic integers. For groups, they are known to be integers. Also, it was noted that in many situations such as some Drinfeld doubles of Hopf algebras they are also integers, which lead to conjecturing that they might be integers in general for any fusion symmetric tensor category. We address this question here; we give some general results and focus on the Drinfeld doubles of groups. We find equivalent conditions for all indicators of representations of $D(G)$ to be integers, and we prove that there are large classes of groups - which include CA groups and primitive p -groups - for which this is true. On the other hand, we use our characterizations and computer algebra to find many interesting counterexamples to this conjecture. Joint work with G.Mason, S. Montgomery, with some ideas of S-H.Ng. (Received September 20, 2011)