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Hung Ngoc Nguyen* (hnguyen@math.ufl.edu), 358 Little Hall, POBox 118105, Department of Mathematics, Gainesville, FL 32611. *Low-dimensional complex representations of odd characteristic symplectic groups.*

Lower bounds for the degrees of irreducible representations of finite groups of Lie type in cross characteristic were found by Landazuri, Seitz and Zaleskii and improved later by many people. These bounds have proved to be very useful in many applications. Not only the smallest representation, more importantly, low-dimensional representations are of interest.

In this talk, we will present some results on low-dimensional complex representations of $G = Sp_{2n}(q)$ with q odd. This was done by Tiep and Zaleskii in the paper "Minimal characters of the finite classical groups", Comm. Algebra, 24, 1996 up to $(q^{2n} - 1)/2(q + 1)$ and we want to push it up to $(q^n - 1)q^{4n-10}/2$. Based on Lusztig's classification of irreducible complex characters of finite groups of Lie type, we found the degrees and the number of characters of each degree less than $(q^n - 1)q^{4n-10}/2$. (Received August 30, 2007)