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Jeffery E. Breeding-Allison* (jbreeding@fordham.edu), Department of Mathematics,
Fordham University, 441 East Fordham Road, Bronx, NY 10458. *Siegel modular forms:
Representations, computing spaces, and abelian varieties.*

We discuss the theory of Siegel modular forms. We describe the associated automorphic representations and their relationship to representations of finite groups. We also discuss recent work on explicitly computing spaces of paramodular forms. These computations verify many cases of the Paramodular Conjecture of Brumer and Kramer, which relates abelian surfaces to weight two paramodular forms not in the span of Gritsenko lifts. (Received September 13, 2015)