

1132-20-111

Patrick M Gilmer* (gilmer@math.lsu.edu) and **Gregor Masbaum.** *An application of TQFT to modular representation theory.*

For $p \geq 5$ a prime, and $g \geq 3$ an integer, we use a Topological Quantum Field Theory (TQFT) defined over $\mathbb{Z}[\zeta_p]$ to study a family of $p - 1$ highest weight modules $L_p(\lambda)$ for the symplectic group $Sp(2g, K)$ where K is an algebraically closed field of characteristic p . This permits explicit formulae for the dimension and the formal character of $L_p(\lambda)$ for these highest weights. (Received July 17, 2017)