## Irreducible Representations of $Sp(\mathbb{C}^{2\ell},\Omega)$ on $\bigwedge \mathbb{C}^{2\ell}$ John Giffis

Since the beginning of group theory, physicists have been using invariant theory to describe conserved physical quantities. Presented here is the theory of Duality at the level of associative algebras and at the level of groups. The specific example used to illustrate this theory is the action of the group  $Sp(\mathbb{C}^{2\ell},\Omega)$  on the vector space  $\bigwedge \mathbb{C}^{2\ell}$ .