Abstract

We study self-dual codes over the rings \( \mathbb{Z}_8 \) and \( \mathbb{Z}_9 \). We define various weights and weight enumerators over these rings and describe the groups of invariants for each weight enumerator over the rings. We examine the torsion codes over these rings to describe the structure of self-dual codes. Finally we classify self-dual codes of small lengths over \( \mathbb{Z}_8 \) and \( \mathbb{Z}_9 \).