

Title: Duality Groups

The *duality group* is an algebraic tool to measure how far a hypermap \mathcal{H} is from being self-dual, and it can be formally described as the minimal subgroup $D(\mathcal{H}) \trianglelefteq \text{Mon}(\mathcal{H})$ such that $\mathcal{H}/D(\mathcal{H})$ is a self-dual hypermap. We will prove that for any positive integer d , we can find a hypermap of that duality index (the order of $D(\mathcal{H})$), even when some restrictions apply, and also that, for any positive integer k , we can find a non self-dual hypermap such that $|\text{Mon}(\mathcal{H})|/d = k$. Links between duality index, type and genus of an orientably regular hypermap will be explored.