

# Bled'11 - 7th Slovenian International Conference on Graph Theory

Contribution ID : 186

## The Classification of Regular Cayley Maps for Cyclic Groups

### Content :

A regular Cayley map for the cyclic group  $A$  can be defined algebraically as a group with specified generators  $x, y$ , where  $x$  is an involution, having a complementary factorization  $AY$ , where  $Y$  is the subgroup generated by  $y$ . A complete classification is given for regular Cayley maps for the cyclic group of order  $n$ , depending only on a unit  $r \pmod n$ , if  $n$  is odd, or  $\pmod{n/2}$ , if  $n$  is even, where  $r$  satisfies certain technical conditions. Necessary and sufficient conditions on  $r$  are given for the map to be reflexible, balanced,  $t$ -balanced, or not balanced. In addition, all such maps are enumerated.

**Primary authors** : Prof. TUCKER, Thomas (Colgate University)

**Co-authors** : CONDER, Marston (University of Auckland)

**Presenter** : Prof. TUCKER, Thomas (Colgate University)

**Session classification** : --not yet classified--

**Track classification** : Maps and Symmetries

**Type** : Oral presentation