

The orientable genus of certain complete tripartite graphs

MARK ELLINGHAM*

CHRIS STEPHENS

Department of Mathematics
Vanderbilt University
{mne,cstephen}@math.vanderbilt.edu

XIAOYA ZHA

Department of Mathematical Sciences
Middle Tennessee State University
xzha@mtsu.edu

Abstract. In 1969 White conjectured that the orientable genus of the complete tripartite graph $K_{l,m,n}$, with $l \geq m \geq n$, is $\left\lceil \frac{(l-2)(m+n-2)}{4} \right\rceil$. In joint work with Stephens and Zha, we have shown that this is true in the cases where (m, n) , reduced modulo 4, is $(0, 0)$, $(0, 2)$, $(1, 1)$, $(2, 0)$, $(2, 1)$, $(2, 2)$, $(2, 3)$ or $(3, 3)$.