1135-57-654 **Valentas Kurauskas*** (valentas@gmail.com), Institute of Mathematics and Informatics, Vilnius University, Akademijos 4, LT-04812 Vilnius, Lithuania, and **Ugnė Šiurienė**. *Symmetric road interchanges.*

A road interchange where n roads meet and in which drivers are not allowed to change lanes can be naturally modeled as an embedding of a 2-colored (hence bipartite) multigraph G with equal-sized color classes into an orientable surface such that there is a face bounded by a Hamiltonian cycle. The genus of the underlying surface can be interpreted as the number of bridges in the interchange.

Motivated by this, we study the embeddings of $K_{n,n}$ where one of the faces is bounded by a Hamiltonian cycle. We determine the minimum genus of such n-fold rotationally symmetric embeddings (equivalently, the minimum number of bridges in a complete n-way interchange which is symmetric under the cyclic permutation of its roads). We consider both (a) abstract combinatorial/topological symmetry, and (b) symmetry in the 3-dimensional Euclidean space $\mathbb{R}^3$. (Received September 12, 2017)