

1163-01-1110 **Atsuhiko Nakamoto*** (nakamoto@ynu.ac.jp), Yokohama National University, 79-1 Tokiwadai, Hodogaya-ku, Yokohama, 2408502, Japan. *Spanning quadrangulations in triangulations.*

Every triangulation on any surface admits a spanning quadrangulation, since every bridgeless cubic graph is known to have a perfect matching. When the surface is a sphere, then the quadrangulation obtained must be bipartite, since every quadrangulation on the sphere is bipartite. However, in general, it seems to be difficult to control the bipartiteness of quadrangulations in a triangulation, and some triangulations do not have bipartite ones. In our talk, we introduce a problem for finding a spanning bipartite quadrangulation in a triangulation on a surface, and describe some result on it. Furthermore, we introduce an attempt to extend our problem to a higher dimension. (Received September 14, 2020)