1114-03-216 **Shosaku Matsuzaki*** (shosaku@aoni.waseda.jp), #405 5-17-5, honcho, shiki, Saitama 3530004, Japan. *Arrangements of spatial graphs on surfaces arranged in* $\mathbb{R}^3$.

A finite set composed of connected two-dimensional manifolds embedded in the three-dimensional Euclidean space is called an *arrangement of surfaces*. We call an arrangement $\mathcal{F}$ of surfaces an arrangement of planes if every element of $\mathcal{F}$ is a "flat plane" and no two of them are parallel. A spatial graph G is said to be *arrangeable* on an arrangement $\mathcal{F}$ of surfaces if there exists a spatial graph G' which is ambient isotopic to G such that each component of G' is contained in a surface belonging to $\mathcal{F}$. We consider the following problems. (1) Given an arrangement of surfaces, determine spatial graphs which can be arrangeable on it. (2) Given a spatial graph, determine arrangements of surfaces on which the spatial graph is arrangeable. I will talk about partial answers to the problems. For example, I will introduce the following result. Every spatial graph composed of n trivial planar graphs is arrangeable on every arrangement of planes with n planes. (Received August 28, 2015)