1114-57-169 **Makoto Ozawa*** (w3c@komazawa-u.ac.jp), 1-23-1 Komazawa, Setagaya-ku, Tokyo 154-8525, Japan, and **Shosaku Matsuzaki** (shosaku@aoni.waseda.jp), 1-6-1 Nishiwaseda, Shinjuku-ku, Tokyo 169-8050, Japan. *Embeddings of multibranched surfaces.*

A second countable Hausdorff space X is called a multibranched surface if for any point x of X, there exist an open neighborhood U and a natural number i such that U is homeomorphic to S_i, where S_n denotes a quotient space which is obtained from a disjoint union of n R^2_+ by identifying their boundaries.

In this talk, we consider embeddings of multibranched surfaces into 4-dimensional Euclidian space, 3-manifolds, and in particular, the 3-sphere S^3.

We define a genus of a multibranched surface as the minimal Heegaard genus of 3-manifolds in which it can be embedded, and show that for each non-negative integer n, there exists a multibranched surface of genus n.

We also define a minor of a multibranched surface and consider the obstruction set for a minor-closed property.

We give some examples of multibranched surfaces which are contained in the obstruction set for embeddability into S^3, not intrinsically essential (knotted/linked).

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