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Koya Shimokawa* (kshimoka@rimath.saitama-u.ac.jp). *Handlebody decompositions of 3-manifolds and poly-continuous patterns*. Preliminary report.

In this talk, we consider handlebody decompositions of 3-manifolds. We will show that each closed orientable 3-manifold admits such a decomposition, and if there are two handlebody decompositions with some property, they are “stably equivalent”. We will also discuss a characterization of handlebody decompositions of the 3-dimensional torus.

One motivation for this study comes from the material sciences. We are interested in the characterization of poly-continuous patterns of microphase structures of block copolymers. As an application, we discuss the characterization of poly-continuous patterns. We will also show that two poly-continuous patterns can be related by a finite sequence of moves. (Received August 15, 2020)