Research Plan

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(I) A study of applications to Topological data analysis(=TDA).

I work on an extension of persistent homology to multiparametric data, which was already written in 'Abstract of the results of my research'. Namely, I will study the subject of the representation theory of multidimensional persistence modules.

(I)-1: First, I would like to make a further investigation of our result [11], [12] on multidimensional persistence modules, such as an extension of the theory, to complete an algorithm.

(I)-2: Second, I will study an extension of a robustness of persistent homologies for noises to multidimensional persistence modules. Note that the robustness is one of the foundations of TDA and is need to be the practical realization of multidimensional persistence modules.

(II) The others.

In addition I have two joint work. One is with members belonging to WPI-ASHBi (Kyoto University) and the other is with members belonging to ACT-X.