

Name : Taro Yoshino

Research field : Lie group, Lie algebra and Representation theory

Key words : Clifford-Klein form, discontinuous group, deformation space, topological blow-up

Present research :

- Deformation spaces of Clifford-Klein forms

A Clifford-Klein form of a homogeneous space G/H of a Lie group G , is a manifold of the form $\Gamma \backslash G/H$, where Γ is a discontinuous group acting on G/H . Given a model space G/H , the deformation of Γ in G gives rise to a family of Clifford-Klein forms. All manifolds in this family have the same local structure, but have different global structures. My research interests is in such deformation spaces.

- Topological blow-up

It may well happen that deformation spaces of Clifford-Klein forms are not Hausdorff. So, it is not easy to get an intuition of the deformation space. In order to understand such non-Hausdorff spaces, I have introduced a method ‘topological blow-up’. The basic part of this theory has just been established. I plan to apply the method on understanding of some deformation spaces.

Notice for the students :

I hope you have studied and understood well linear algebra, topological space, and manifold.

I hope you know what you are interested in.