

My research plan

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It is important to characterize invariants for classification of oriented homology 3-spheres. The Casson invariant used for classification of oriented homology 3-spheres. In [1], I study to compute the Casson invariant of the cyclic covering space of 3-sphere branched over some satellite knot. I will study to compute the Casson invariant of the cyclic covering space of 3-sphere branched over any knot. In particular, I will study to obtain the exact relation between the value of the Casson invariant of the oriented homology 3-sphere and surgery description of the oriented homology 3-sphere.

In [2], I study the Casson-Walker-Lescop invariant. The Casson-Walker-Lescop invariant used for classification of closed 3-manifolds. I will study to compute the Casson-Walker-Lescop invariant of the cyclic covering space of rational homology 3-sphere branched over any knot. In particular, I will study to obtain the exact relation between the value of the Casson-Walker-Lescop invariant of the closed 3-manifold and surgery description of the closed 3-manifold.