

The 14th Takagi Lectures

November 15, 2014 (Sat) 12:40–13:40

November 16, 2014 (Sun) 10:00–11:00

Graduate School of Mathematical Sciences

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Floer Theory and Its Topological Applications

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Abstract

We survey the different versions of Floer homology that can be associated to three-manifolds. We also discuss their applications, particularly to questions about surgery, homology cobordism, and four-manifolds with boundary. We then describe Floer stable homotopy types, the related $\text{Pin}(2)$ -equivariant Seiberg–Witten Floer homology, and its application to the triangulation conjecture.