博士論文公聴会の公示（物理学専攻）

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論文題目： M-theory Perspectives on Codimension-two Defects
　　　　　（M 理論に基づく余次元 2 欠陥演算子の解析）
日時 ：2017年　2月　8日 （水）　14:40－16:10
場所 ： 理学研究科H棟7階7階セミナー室（H701号室）

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論文要旨：

　　In this thesis, we investigate a codimension-two defect in the supersymmetric gauge theory.The codimension-two defect is a sort of a non-local operator which has significant role to disclose various aspects in quantum field theory. The characters of this class of non-local defects are not largely uncovered in spite of many efforts to address this object. On the other hand, it has been developed that a wide variety of supersymmetric gauge theories can be descended from the six-dimensional superconformal field theory that is engineered by M-theory. The six-dimensional theory of our interest contains a self-dual string as a physical object. The specific model of the self-dual string was recently proposed as Mstrings as an attempt to directly measure physical spectra in the six-dimensional theory. We mainly explore the origin of the codimension-two defect in the standpoint of M-strings and propose that such a defect can be appropriately constructed by introducing an extra M5-brane intersected with the original M5-branes in which M-strings reside. We provide strong supports for our formation of the defect by evaluating its contribution using the exact calculation scheme called the topological vertex and the elliptic genus.