

# APCTP SEMINAR

## 4d SCFTs and modular differential equations

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**June 10th (Fri.) 15:00**

**#512, APCTP & Online via ZOOM**

This is intended to be a pedagogical talk, and hopefully accessible to students. Schur index is a simplest invariant of 4d  $\mathcal{N} = 2$  SCFTs, and is equivalent to the vacuum character of the associated chiral algebras via a 4d/2d correspondence. This fact forces the Schur index to satisfy some set of ordinary or partial differential equations, referred to as modular differential equations (MDEs). In this talk we will start by recalling the notion of character in 2d CFT and the Witten index of supersymmetric theory. Then we move on to introduce the Schur index of 4d  $\mathcal{N} = 2$  SCFTs and its relation to the 2d CFT character. Finally we will discuss the MDEs satisfied by the Schur index, and if time permits, some recent progress on Schur index with surface defects related to MDEs.

### ■ ZOOM Webinar

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