SCMS Seminar

DEFORMATIONS OF PRISMATIC (G,μ)-DISPLAYS

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Time: Tue., Oct. 15th, 10:00-11:00AM

Venue: SCMS Room 102-104

Abstract:

In this talk, I will discuss a joint project with A. Partofard, on prismatic displays with additional structures. I will start with a concise overview of the theory of displays developed by Th. Zink, which serves as a generalization of Dieudonné theory. Displays play a crucial role in the study of Barsotti-Tate groups when the base is not a perfect field of positive characteristic. Zink has further expanded the theory by introducing windows over frames. In another direction, in order to construct integral models of certain Shimura varieties that are not of Abelian type, O. Bültel defined and studied displays with additional structures called (G,μ)-displays.

In this joint project with Partofard, we define and study the stack of prismatic higher (G,μ)-displays over the quasi-syntomic site, which is better adapted to the setting of pefectoid geometry and is closely related to the stack of G-torsors over the Fargues-Fontaine curve and local Shimura varieties. When G is the general linear group, our stack is the same as the stack of admissible prismatic F-crystals developed by Anschütz-LeBras, which is equivalent to the stack of p-divisible groups. We also prove a Grothendieck-Messing style deformation result for these prismatic displays, which, for the general linear group, answers a question of Anschütz-LeBras.