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Tong Liu* (tongliu@math.purdue.edu) and **Bryden Cais**. *F-crystalline representations and Kisin modules*.

Kisin module is very useful to study crystalline representations. In this talk, we extend the theory of Kisin modules and crystalline representations to allow more general coefficient fields and lifts of Frobenius. In particular, we construct a general class of totally wildly ramified extensions K_∞/K so that the functor $V \mapsto V|_{G_\infty}$ is fully-faithfull on the category of crystalline representations. We also establish a new classification of Barsotti-Tate groups via Kisin modules of height 1. This is a joint work with Bryden Cais. (Received August 10, 2015)