

# Philadelphia Area Number Theory Seminar

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## On the Paramodular Conjecture for certain abelian surfaces with rational torsion

**Abstract:** The famous Taniyama-Shimura conjecture predicts the existence of a one-to-one correspondence between isogeny classes of elliptic curves over  $\mathbb{Q}$  and certain modular forms of weight 2. The Paramodular Conjecture postulates the existence of a similar correspondence between certain abelian surfaces and certain (Siegel) modular forms.

but even the amount of verified examples is humbling, to say the least. We will discuss the conjecture as well as a recent progress in the case of abelian surfaces that possess rational torsion. This is joint work with T. Berger.

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