

1125-11-411

George A Boxer* (george.a.boxer@gmail.com). *On the Serre weights of certain $GS\!p_4$ valued Galois representations.*

Given an irreducible, odd, mod p Galois representation $\bar{\rho} : G_{\mathbf{Q}} \rightarrow \mathrm{GS}\!p_4(\overline{\mathbf{F}}_p)$, a generalization of Serre’s famous modularity conjecture predicts that $\bar{\rho}$ is the mod p Galois representation associated to a Siegel modular form of genus 2. Then one can try to understand, as Serre did for elliptic modular forms, what the possible weights are for Siegel modular forms giving rise to $\bar{\rho}$. In its modern formulation, this problem is known as the “weight part of Serre’s conjecture.” We will explain a result about the Serre weights of a certain class of $\bar{\rho}$ ’s and give an application. This is joint work with Frank Calegari and Toby Gee. (Received September 01, 2016)