

Title: The Local Langlands Conjecture for  $\mathrm{GSp}(4)$

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Abstract: In this mini course, I will explain the proof of the local Langlands conjecture for  $\mathrm{GSp}(4)$  by Gan and myself. After giving an outline of the proof, I will give basics of the theory of theta correspondences, which is the main machinery we need, and then explain how it is used to prove the local Langlands conjecture for  $\mathrm{GSp}(4)$ .

Also discussed are the theory of local factors and Plancherel measures, and how it is used to show that the local Langlands correspondence for  $\mathrm{GSp}(4)$  is unique. Finally, if time permits, I will talk about how the local Langlands correspondence for  $\mathrm{Sp}(4)$  can be derived from that for  $\mathrm{GSp}(4)$ .