1172-14-10 **Shanna Dobson***, Shanna.Dobson@calstatela.edu. $(\infty, 1)$-*Grothendieck Construction of Spatial Diamonds and V-Stacks.* Preliminary report.

Motivated by Scholze's 'etale cohomology of diamonds and Scholze and Fargues' geometrization of the local Langlands correspondence, we conjecture a universal construction of spatial diamonds. We then extend this universal construction to an $(\infty, 1)$-Grothendieck construction on our $(\infty, 1)$-category of spatial diamonds. A diamond $\mathcal{D}$ is a certain pro-'etale sheaf on the category of perfectoid spaces of characteristic p. A perfectoid space is an adic space covered by adic spaces of the form $Spa(R, R^+)$ for R a perfectoid ring. A spatial diamond is a small v-sheaf in the v-topology, which is a Grothendieck topology. Constructing quotients of diamonds by a diamond equivalence relation yields v-sheaves and constructing quotients of small v-sheaves by a small v-sheaf equivalence relation produces v-stacks. We conclude by discussing a universal construction of v-stacks. (Received July 10, 2021)