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Shanna Nicole Dobson* (sdobson@calstatela.edu), Shanna Dobson, 5151 State University Drive, Los Angeles, CA 90039. *Higher Categorical Traces on $\mathcal{Crys}^r(X)^\heartsuit$* . Preliminary report.

Let X be a DG scheme which is locally almost of finite type. Following Gaiitsgory and Rozenblyum, to each prestack (locally almost of finite type) Y , we assign a stable ∞ -category $\mathcal{Crys}(Y)$ that has a left realization functor to $\mathrm{QCoh}(Y)$ and a right realization functor to $\mathrm{IndCoh}(Y)$. Using their results that $\mathcal{Crys}^r(X)^\heartsuit$ is a Grothendieck abelian category that is locally Noetherian and that $\mathcal{Crys}^r(X)$ has finite cohomological dimension with respect to its t-structure, we investigate higher categorical traces on $\mathcal{Crys}^r(X)^\heartsuit$ using the trace functor terminology of Hayois. (Received February 12, 2020)