

1167-11-177

**Shanna Dobson\***, 5151 State University Drive, Los Angeles, CA 90032. *Diamond Holographic Principle and  $\mathcal{D}^\circ$ -Emergent Time*. Preliminary report.

We introduced the Efimov K-theory of diamonds in a conjectured localization sequence  $K(\mathcal{D}_\diamond) \rightarrow K^{\text{Efimov}}(\mathcal{Y}_{S,E}^\diamond) \rightarrow K^{\text{Efimov}}(\mathcal{Y}_{(R,R^+),E})$  and modification  $F_{\text{cont}}(\text{Shv}(\mathbb{S}^n, \mathcal{D}^\circ)) \simeq \Omega^n F_{\text{cont}}(\mathcal{D}^\circ)$ , for  $\mathcal{D}^\circ$  a stable dualizable presentable  $(\infty, 1)$ -category of diamonds,  $\mathcal{D}_\diamond$  the complex of  $v$ -stacks of locally spatial diamonds,  $\mathcal{Y}_{(R,R^+),E} = \text{Spa}(R, R^+) \times_{\text{Spa}F_q} \text{Spa}F_q[[t]]$  the relative Fargues-Fontaine curve, and  $\mathcal{Y}_{S,E}^\diamond = S \times (\text{Spa}\mathcal{O}_E)^\diamond$  the diamond.

In this talk, we discuss our diamond holographic principle using the adjoint pairs  $f^*$ ,  $\mathcal{R}f_*$  and  $\mathcal{R}f_!$ ,  $\mathcal{R}f^!$  from Scholze's six operations, a sheaf of sets on  $*_{\text{proét}}$ , and a mathematical-impurity geometric point  $\text{Spa } C \rightarrow \mathcal{D}$ . We then discuss emergent time from the condensed setting and investigate a condensed version of  $F_{\text{cont}}(\text{Shv}(\mathbb{S}^n, \mathcal{D}^\circ)) \simeq \Omega^n F_{\text{cont}}(\mathcal{D}^\circ)$ . (Received March 06, 2021)