1163-14-1573 **Edray Herber Goins*** (edray.goins@pomona.edu), 610 North College Avenue, Claremont, CA 91711. *Visualizing Toroidal Belyĭ Pairs.* Preliminary report.

A Belyĭ map $\beta : \mathbb{P}^1(\mathbb{C}) \to \mathbb{P}^1(\mathbb{C})$ is a rational function with at most three critical values; we may assume these values are $\{0, 1, \infty\}$. A Dessin d'Enfant is a planar bipartite graph obtained by considering the preimage of a path between two of these critical values, usually taken to be the line segment from 0 to 1. Such graphs can be drawn on the sphere by composing with stereographic projection: $\beta^{-1}\big([0,1]\big) \subseteq \mathbb{P}^1(\mathbb{C}) \simeq S^2(\mathbb{R})$.

Replacing $\mathbb{P}^1$ with an elliptic curve E, there is a similar definition of a Belyĭ map $\beta : E(\mathbb{C}) \to \mathbb{P}^1(\mathbb{C})$. The corresponding Dessin d'Enfant can be drawn on the torus by composing with an elliptic logarithm: $\beta^{-1}\big([0,1]\big) \subseteq E(\mathbb{C}) \simeq \mathbb{T}^2(\mathbb{R})$. In this project, we use the open source `Sage` to write code which takes an elliptic curve E and a Belyĭ map β to return the Dessin d'Enfant of this map – both in two and three dimensions. We focus on several examples of Belyĭ maps which appear in the L-Series and Modular Forms Database (LMFDB). (Received September 15, 2020)