1132-57-13 **Charles Frohman*** (charles-frohman@uiowa.edu), **Joanna Kania-Bartoszynska** and **Thang Le**. *Generic Dehn-Thurston Coordinates.*

Let F be a closed oriented surface. A simple diagram on F is a disjoint collection of essential simple closed curves.

Dehn-Thurston coordinates for the simple diagrams on F are determined by a pants decomposition $\mathcal{P} = \{P_i\}$ where the P_i is a collection of disjoint simple closed curves that cut F into pairs of pants,and an embedding $\mathcal{D}$ of the dual graph of the decomposition. The coordinates consist of a $6g-6$-tuple of numbers $(n_1, \ldots, n_{3g-3}, t_1, \ldots, t_{3g-3})$. If S is a simple diagram then $n_i(S)$ is the geometric intersection number of S with P_i and $t_i(S)$ is the number of times that a standard model of S twists around P_i with sign.

We say the diagram S is triangular if whenever P_i,P_j and P_k bound a pair of pants, the numbers $n_i(S)$,$n_j(S)$ and $n_k(S)$ satisfy all triangle inequalities.

In this talk I will prove that given any finite collection of simple diagrams there is a choice of Dehn-Thurston coordinates so that all the diagrams are triangular. (Received May 01, 2017)