1021-30-100   **David Dumas*** (`ddumas@math.brown.edu`), Department of Mathematics, Brown University, Providence, RI 02912, and **Michael Wolf** (`mwolf@math.rice.edu`), Department of Mathematics, Rice University, Houston, TX 77005. *Grafting Coordinates for Teichmüller space.*

Grafting is a geometric operation in which a measured lamination on a hyperbolic surface is thickened, changing the conformal structure of the surface. We show that when restricted to a fixed hyperbolic surface, grafting defines a homeomorphism from the space of measured laminations to Teichmüller space. We discuss properties of the resulting "polar coordinates" and applications of this result to Bers slices and $\mathbb{CP}^1$ structures on surfaces. (Received August 29, 2006)