Supplementary Video 1

The edge-mode of the whisker model (frictionless) is used to simulate a whisker (black) slipping against an edge. Oblique and top views are shown. The contact point, represented by a red dot, slips both along the edge and along the whisker arc length. The history of the slip along the whisker arc length is shown in blue. The gray trace represents the position and orientation of the whisker had not made contact with the object. The contact point (red) and slip history (blue) are shown at the corresponding arc lengths on the gray whisker.