1012-55-155 Kate Gruher* (gruher@math.stanford.edu), Stanford University, Mathematics, Bldg. 380, 450 Serra Mall, Stanford, CA 94305, and Paolo Salvatore. String Topology of Classifying Spaces. Preliminary report.

Let M be a closed, oriented manifold and let LM be the free loop space. Cohen and Jones have shown that LM^{-TM} has a ring spectrum structure that realizes the Chas-Sullivan product in $H_*(LM)$. I will discuss how to generalize their construction to fiberwise monoids over manifolds. I will then use this construction to describe the notion of the string topology of BG, where G is a compact Lie group, by associating to BG a pro-ring spectrum related to the loop space LBG. (Received September 19, 2005)