

1077-53-2485

Fatima Mahmood* (fm88@cornell.edu), 310 Malott Hall, Cornell University, Ithaca, NY

14853. *Differential forms on contact quotients*. Preliminary report.

Let M be a cooriented contact manifold and G a compact connected Lie group that acts smoothly on M preserving the cooriented contact structure. The contact quotient of M by G is in general a singular space, but it has a stratification into contact manifolds. In this talk, we will introduce a de Rham complex for the total quotient space whose corresponding cohomology ring is isomorphic to its (Čech, singular) cohomology ring with real coefficients. We will also give an alternate definition of differential forms on the contact quotient, which is used to show that the de Rham complex does not depend on how reduction is done in stages.

The author was partially supported by NSF Grant DMS-0901570. (Received September 22, 2011)