Meeting: 1001, Evanston, Illinois, SS 3A, Special Session on Index Theory, Morse Theory, and the Witten Deformation Method

1001-58-209 **Jesús A. Álvarez López*** (jalvarez@usc.es), Departamento de Xeometría e Topoloxía, Facultade de Matemáticas, Campus Universitario Sur, 15706 Santiago Compostela, Spain, and **Manuel Calaza Cabanas** (mcalaza@usc.es), Departamento de Matemática Aplicada, Facultade de Matemáticas, Campus Universitario Sur, 15706 Santiago de Composte, Spain. *Morse inequalities for orbit spaces.*

The second author has published certain type of Morse inequalities for orbit spaces of actions of compact Lie groups on closed manifolds. The proof is an adaptation of Witten's modification of the de Rham complex. Nevertheless, a gap in the proof was discovered and counterexamples can be given. Now we show how to modify the arguments leading to Morse inequalities for such orbit spaces involving different quantities. (Received August 26, 2004)