

HOMEWORK 10

Exercise 1. Using the long exact sequence of a fibration, describe $\pi_k(\mathbb{R}P^n)$ with the help of $\pi_k(S^n)$.

Exercise 2. Compute the fundamental group of the double torus (the sphere with two handles).

Exercise 3. Using Van Kampen theorem compute the fundamental group of $\mathbb{R}^3 \setminus S^1$.