

Title: Maps between $G_{n,k}$ and $G_{n,l}$

Abstract: Let $G_{n,k}$ denote the Grassmann manifold of k -dimensional vector subspaces of \mathbb{C}^n and $[X, Y]$ denote the set of homotopy classes of maps from X to Y . We show that (1) $[G_{n,l}, G_{n,k}]$ is finite if $k < l$ and $n \geq 2l^2 + l - 2$, (2) $[G_{n,k}, G_{n,l}]$ is finite if $2 < k < l < 2(k - 1)$ and $n \geq 3l^2 - 2$, (3) $[G_{n,k}, G_{n,l}]$ is finite if $1 < k < l$, $f > f_1$ and $n \geq 3l^2 - 2$, where $l = ek + f$ and $n = e_1k + f_1$ with $0 \leq f, f_1 < k$.

This is a joint work with Prateep Chakraborty.