

HOLOMORPHIC FUNCTIONS ON (GENERALISED) LOOP SPACES

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ABSTRACT

Let \mathbb{P}_n denote n dimensional complex projective space. Given $k = 0, 1, \dots, \infty$, a map $x_0: S^1 \rightarrow \mathbb{P}_n$ of class C^k , and a closed subset $A \subset S^1$, consider the space Y of those C^k maps $x: S^1 \rightarrow \mathbb{P}_n$ that agree with x_0 along A . The space Y can be endowed with the structure of an infinite dimensional complex manifold, and our main result identifies the space of holomorphic functions on Y .