

A commutative diagram illustrating the relationship between spaces X and Y and their images under a projection π .

The diagram consists of three nodes and three arrows:

- The central node on the left is $\pi(X, x_0)$.
- The top node on the right is $\pi(Y, \varphi_0(x_0))$.
- The bottom node on the right is $\pi(Y, \varphi_1(x_0))$.

The arrows are labeled as follows:

- An arrow labeled φ_{0*} points from $\pi(X, x_0)$ to $\pi(Y, \varphi_0(x_0))$.
- An arrow labeled φ_{1*} points from $\pi(X, x_0)$ to $\pi(Y, \varphi_1(x_0))$.
- A vertical arrow labeled u points from $\pi(Y, \varphi_0(x_0))$ down to $\pi(Y, \varphi_1(x_0))$.

The diagram shows that the image of $\pi(X, x_0)$ under φ_{0*} is mapped to the image of $\pi(Y, \varphi_1(x_0))$ under u .