SIMPLICIAL COVERINGS

FRANK MURPHY-HERNANDEZ

Abstract.

Introduction

1. Preliminaries

[1] [2]

An abstract simplicial complex is a pair $(S, \mathcal{K})$ where S is a set and $\mathcal{K}$ is a family of non-empty finite subsets of S such that, if $\sigma \subseteq \tau$ and $\tau \in \mathcal{K}$ then $\sigma \in \mathcal{K}$. A morphism between abstract simplicial complexes $(S_1, \mathcal{K}_1)$ and $(S_2, \mathcal{K}_2)$ is a map $f\colon S_1 \longrightarrow S_2$ such that $f(\sigma) \in \mathcal{K}_2$ for any $\sigma \in \mathcal{K}_2$.

2. Abstract Simplicial Coverings

Definition 2.1. *Let $(S, \mathcal{K})$ be an abstract simplicial complex. An abstract simplicial covering of $(S, \mathcal{K})$ is a pair $((T, \mathcal{L}), p)$ where $(T, \mathcal{L})$ is a abstract simplicial complex and $p\colon T \longrightarrow S$ is a morphism of abstract simplicial complexes such that...*

Proposition 2.1. *Let $(S, \mathcal{K})$ be an abstract simplicial complex and $((T, \mathcal{L}), p)$ an abstract simplicial covering of $(S, \mathcal{K})$. Then $(|(T, \mathcal{L})|, |p|)$ is covering of $|(S, \mathcal{K})|$.*

Proof. □

References

[1] Paul G Goerss and John F Jardine. *Simplicial homotopy theory*. Springer Science & Business Media, 2009.

[2] J Peter May. *Simplicial objects in algebraic topology*, volume 11. University of Chicago Press, 1992.

Facultad de Ciencias, UNAM, Mexico City
Email address: murphy@ciencias.unam.mx

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