

Scott Balchin (Sheffield)

One-dimensional Quillen model structures

Abstract

Quillen model categories were developed in the latter half of the 20th century to describe the homotopy theory of spaces. They provide an axiomatic framework to say when two morphisms in a category should be thought of as being "homotopic". In this talk, we will give the definition of a model category and consider some classical examples. We will then go on to use recent results of Balchin-Garner to provide examples of model categories which are constructed from the data of reflective and coreflective subcategories. Model structures arising from this machinery should be thought of as being one-dimensional for reasons that will be illuminated upon.