

## **Infinitely ludic categories**

**Matheus Duzi Ferreira Costa**

York University

`mduzi@yorku.ca`

We present a new categorical approach to the study of infinite games in combinatorics. With said new approach, we define categories of infinite games and are thus able to show how a classical result from Scheepers about covering and tightness topological games can be seen as a consequence of the existence of natural transformations between the respective game functors.

We also present many aspects of the structural richness of these new game categories and characterize them in terms of other well-established categories.

**(joint work with Paul Szeptycki and Walter Tholen)**