

## **Rotation in the annulus and prime ends**

Luis Hernández Corbato

The topology of continua (compact and connected sets) can be quite wild even in dimension 2, for example not locally connected in any of its points. There is a natural way to compactify the complement of such a continua in a surface by adding a circle, called the circle of prime ends. In this talk we will introduce this compactification and talk about its relationship with dynamics. More precisely, we will consider a homeomorphism  $f$  of an annulus and a continua invariant  $C$  under  $f$  that is essential in the annulus. The discrete dynamical system generated by  $f$  defines a notion of “speed of rotation”, namely rotation number, for points in the continua and also for “points” in the prime end compactification. We will see how these rotation numbers are linked.