

## **A Cartwright-Littlewood fixed point theorem for non-invariant continua**

**Przemysław Kucharski**

AGH University of Science and Technology

pkuchars@agh.edu.pl

In 1951 Cartwright and Littlewood proved that an orientation preserving planar homeomorphism has a fixed point in every invariant continuum that does not separate the plane. Short proofs were later given by Hamilton in 1954, and Brown in 1977. We present a certain generalization of Cartwright-Littlewood fixed point theorem that does not require invariance of continuum and allows to detect fixed points in connected components of the continuum intersected with its image. We discuss how the approach of Hamilton to the classical version of theorem can be modified to fit into new setting.