

## AN ACL2 FORMALIZATION OF ALGEBRAIC STRUCTURES

JÓNATHAN HERAS, FRANCISCO-JESÚS MARTÍN-MATEOS, AND VICO PASCUAL

ABSTRACT. In this paper we present a hierarchy of algebraic structures developed in the ACL2 Theorem Prover. This question had not been undertaken in this system up to now. A methodology and a bunch of tools to handle the structures and morphisms included in our hierarchy have been designed. In order to ensure the applicability of our methodology and tools, a major issue when developing formal proofs, we have proved some results coming from Universal Algebra.

Departamento de Matemáticas y Computación. Universidad de La Rioja.  
*E-mail address:* {jonathan.heras,vico.pascual}@unirioja.es

Grupo de Lógica Computacional, Departamento de Ciencias de la Computación e Inteligencia Artificial. Universidad de Sevilla  
*E-mail address:* fjesus@us.es