

SEMINÁRIO DE TEORIA DA COMPUTAÇÃO

Formalizing Ring Theory in PVS

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Abstract. This talk is about an ongoing project which consists of the specification and formalization in the PVS proof assistant of some definitions and theorems of ring theory in abstract algebra. So far, some important theorems from ring theory were specified and formally proved, like the First Isomorphism Theorem, the Binomial Theorem and a lemma establishing that every finite integral domain with cardinality greater than one is a field. The goal of the project in progress is to specify and formalize in PVS the main theorems from ring theory presented in undergraduate textbooks of abstract algebra. The developed formalization applies mainly a part of the NASA PVS library for abstract algebra specified in the *theory algebra*.