

In this thesis are shown some results of realization of refinement monoid by Grothendieck monoids of von Neumann regular ring. The most important result of this thesis, recently published by P. Ara, J. Bosa and E. Pardo, claims that every finitely generated conical refinement monoid is realizable. We construct for each such monoid a von Neumann regular algebra such that monoid is realizable by this algebra. For this construction we use adaptable separated graphs and their relation to refinement monoids.