

# The Application of Block Triangular Decoupling for Linear System over Principal Ideal Domains on the Pole Assignment

Caturiyati

Department of Mathematics Education

Faculty of Mathematics and Natural Sciences

Universitas Negeri Yogyakarta Indonesia, E-mail: caturiyati@yahoo.com

## Abstract

In this paper, it is studied the pole assignment of the block triangular decoupled systems over principal ideal domains. For this propose, it is presented the reachability submodule and feedback reachability submodule. It is also reviewed the necessary and sufficient condition for the solvability of the block triangular decoupling over principal ideal domain  $\mathfrak{R}$ . Finally, the pole assignment of the block triangular decoupled system is investigated.

**Keywords:** Block Triangular Decoupling, Linear Systems, Principal Ideal Domains, Pole Assignment