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## #792 Summary

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### Submission

Authors	Ahmad Faisol, Fitriani Fitriani
Title	MATRIKS BERSIH KUAT ATAS \RING DERET PANGKAT TERGENERALISASI MIRING
Original file	792-1441-1-SM.PDF 2021-07-11
Supp. files	None
Submitter	Dr. Ahmad Faisol
Date submitted	July 11, 2021 - 08:29 PM
Section	Articles
Editor	Zumardi Rahman

### Status

Status	Archived
Initiated	2022-01-14
Last modified	2022-01-14

### Submission Metadata

[EDIT METADATA](#)

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#### Title and Abstract

Title	MATRIKS BERSIH KUAT ATAS \RING DERET PANGKAT TERGENERALISASI MIRING
Abstract	Salah satu konsep dalam teori aljabar yang banyak digunakan adalah matriks atas lapangan (\textit{field}). Dalam perkembangannya, konsep matriks atas lapangan diperumum menjadi matriks atas ring. Ring merupakan suatu sistem matematika yang terdiri dari suatu himpunan tak kosong yang dilengkapi dua operasi biner yang memenuhi beberapa aksioma. Ring yang banyak digunakan dalam kajian ilmu matematika terapan adalah Ring Polinomial \$R[X]\$ dan Ring Deret Pangkat \$R[[X]]\$. Salah satu sifat matriks atas ring yang telah dikaji oleh para peneliti adalah syarat cukup matriks atas ring \$R[[X]]\$ merupakan matriks bersih kuat. Pada perkembangannya, struktur \$R[[X]]\$ digeneralisasi menjadi ring semigrup \$R[S]\$, Ring Deret Pangkat Tergeneralisasi (RDPT) \$R[[S, \leq]]\$, dan Ring Deret Pangkat Tergeneralisasi Miring (RDPM) \$R[[S, \leq, \omega]]\$. Berdasarkan fakta bahwa struktur \$R[[S, \leq, \omega]]\$ lebih umum dari \$R[[X]]\$, pada penelitian ini diberikan syarat cukup matriks atas RDPTM \$R[[S, \leq, \omega]]\$ merupakan matriks bersih kuat. Hal ini dapat dilakukan dengan cara menambahkan beberapa syarat pada struktur ring \$R\$, monoid terutama tegas \$(S, \leq)\$, dan homomorfisme monoid \$\omega\$ sehingga matriks atas \$R[[S, \leq, \omega]]\$ merupakan matriks bersih kuat. Sebagai akibat langsung, hasil penelitian ini lebih umum dari syarat cukup matriks atas \$R[[X]]\$ merupakan matriks bersih kuat yang telah dikaji sebelumnya.

#### Indexing

Keywords	—
Language	en

#### Supporting Agencies

Agencies LembagLPPM Universitas Lampung; Nomor Kontrak No: 1648/UN 16 26.21/PN/2021

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Editor	Zumardi Rahman

### Peer Review

#### Round 1

Review Version	<a href="#">792-1442-1-RV.PDF</a> 2021-07-11
Initiated	2021-08-02
Last modified	2021-09-04
Uploaded file	None

### Editor Decision

Decision	—
Notify Editor	Editor/Author Email Record  No Comments
Editor Version	None
Author Version	None
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