



## INTISARI

### IDEAL-IDEAL PEMBAGI DI RING POLINOMIAL DIFERENSIAL

Oleh

DIAN NATALIA

13/347997/PA/15415

Dalam suatu ring atau lapangan, dapat didefinisikan suatu polinomial yang koefisien-koefisiennya merupakan elemen dari ring atau lapangan tersebut. Ring  $R[X]$  dan  $F[X]$  merupakan suatu ring yang disebut ring polinomial. Diberikan kriteria keberadaan polinomial kuasi-linier dalam ideal diferensial di ring polinomial diferensial atas lapangan (*field*) karakteristik nol. Generalisasi teorema "Going Up" dan "Going Down" ke kasus aljabar Ritt. Secara khusus, kriteria batas-batas baru untuk basis standar diferensial dan perkiraan yang menjadi ciri kompleksitas perhitungan diperoleh.

## ABSTRACT

### IDEALS OF SEPARANTS IN THE RING OF DIFFERENTIAL POLYNOMIALS

By

DIAN NATALIA

13/347997/PA/15415

In a ring or a field, it was able to define a polynomial which all coefficients are elements of the ring or field. The set of all polynomials with symbol  $X$  as an indeterminate and coefficient in ring  $R$  is denoted by  $R[X]$ . Meanwhile  $F[X]$ , the set of polynomials which coefficient in field  $F$ . Let  $R[X]$  and  $F[X]$  as polynomial rings. We obtain the criterion of existence of a quasi-linear polynomial in a differential ideal in the ordinary ring of differential polynomials over a field of characteristic zero. Generalization of the going up and going down theorems onto the case of Ritt algebras. In particular, new finiteness criteria for differential standard bases and estimates that characterize calculation complexity are obtained.