

Povzetek

V diplomskem delu preučujemo diferencialnim podobne linearne enačbe oblike

$$u(L)g = f,$$

kjer je L operator, ki se obnaša kot odvajanje in u polinom.

Predstavljena je splošna metoda reševanja, ki uporablja le osnovne ideje linearne algebре.

Math. Subj. Class (2000): 34 A30, 47 B37, 47 B38, 47 B39

Ključne besede: diferencialne enačbe, operatorji, polinomi, funkcije generiranja, konvolucija, diferencialnim podobni operatorji, diferencialnim podobne enačbe

Key words: differential equations, operators, polynomials, generating functions, convolution, differentiation-like operators, differential-like equations.

8. Literatura

- [1] L. Verde-Star,
Solving Linear Differential-like Equations,
Amer. Math. Monthly 107 (2000), pp. 205-218.
- [2] D. Elizarraraz and L. Verde-Star,
On a class of differential equations that contains the equations of Euler and Chebyshev,
Adv. Appl. Math. 19 (1997), pp. 514-528.
- [3] D. Elizarraraz and L. Verde-Star,
Similar operators and a functional calculus for the first-order linear differential operator,
Adv. Appl. Math. 22 (1999), pp. 29-47.
- [4] E. Zakrajšek,
Analiza III,
DMFA, Ljubljana, 1998.
- [5] G. Birkoff and G-C. Rota,
Ordinary Differential Equations,
Ginn and Company, Boston, 1962.
- [6] P.A. Fuhrmann,
A Polynomial Approach to Linear Algebra,
Springer, New York, 1996.
- [7] F. Križanič,
Linearna algebra in linearna analiza,
Državna založba Slovenije, Ljubljana, 1993.
- [8] N. Bronstein, K.A. Semendjajew, G. Musiol, H. Mühlig,
Matematični priročnik,
Tehniška založba Slovenija, Ljubljana, 1997.