

## Indecomposability of linear combinations of Bernoulli polynomials

By ÁKOS PINTÉR (Debrecen) and CSABA RAKACZKI (Miskolc)

**Abstract.** In this manuscript, the authors prove the following: for an odd integer  $n \geq 3$ , and integers  $a_n, a_{n-2}, a_{n-4}, \dots, a_3, a_1$  such that  $4 \nmid a_n$ , the polynomial

$$a_n B_n(x) + a_{n-2} B_{n-2}(x) + \dots + a_3 B_3(x) + a_1 B_1(x),$$

where  $B_n(x)$  stands for the  $n$ -th Bernoulli polynomial, is indecomposable over the field of complex numbers.

ÁKOS PINTÉR  
INSTITUTE OF MATHEMATICS  
MTA-DE RESEARCH GROUP  
“EQUATIONS, FUNCTIONS AND CURVES”  
HUNGARIAN ACADEMY OF SCIENCES  
AND  
UNIVERSITY OF DEBRECEN  
P. O. BOX 400  
H-4002 DEBRECEN  
HUNGARY

CSABA RAKACZKI  
INSTITUTE OF MATHEMATICS  
UNIVERSITY OF MISKOLC  
H-3515 MISKOLC CAMPUS  
HUNGARY