FRACTIONAL BERNOULLI POLINOMIALS and APPLICATION

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Abstract

In this paper we discuss Bernoulli numbers and Bernoulli polynomials of order one and order two with shift factor, and their application. Order one Bernoulli polynomials are applied to deconvolution with rectangular apparatus function. Order two Bernoulli polynomials are applied to deconvolution with triangular apparatus function. For trapezoid apparatus function, we define Bernoulli polynomials with parameter δ. Trapezoid apparatus function $\rightarrow$ rectangular apparatus function, if $\delta \rightarrow 0$. Trapezoid apparatus function $\rightarrow$ triangular apparatus function, if $\delta \rightarrow 1$, $(0 \leq \delta \leq 1)$. So,we call this Bernoulli polynomial between order one and order two with parameter δ.