Bernoulli Operator and Riemann's Zeta Function

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We introduce a Bernoulli operator,let "B" denote the operator symbol,for n=0,1,2,3,... let ${B^n}: = {B_n}$ (where ${B_n}$ are Bernoulli numbers,${B_0} = 1,B{}_1 = 1/2,{B_2} = 1/6,{B_3} = 0$...).We obtain some formulas for Riemann's Zeta function,Gamma function,Dedekind eta function,Euler constant and a number-theoretic function relate to Bernoulli operator.For example,we show that \[{B^{1 - s}} = \zeta (s)(s - 1),\] \[\gamma = - \log B,\]where ${\gamma}$ is Euler constant.Moreover,we obtain an analogue of the Riemann Hypothesis (All zeros of the function $\xi (B + s)$ should lie on the imaginary axis).This hypothesis can be generalized to Dirichlet L-functions,Dedekind Zeta function,etc.In fact,we obtain an analogue of Hardy's theorem(The function $\xi (B + s)$ has infinitely many zeros on the imaginary axis). In addition,we obtain a functional equation of $\log \Gamma (Bs)$ and a functional equation of $\log \zeta (B + s)$ by using Bernoulli operator.

Comments:	21 pages,add a remark on Ramanujan summation and umbral calculus
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