별지 제20호 서식]

전문가활용내역서

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연구과제명	정수환 상의 인접대수의 zeta 함수에 대해서			
연구비과목	연구활동비	집행액	원	

전문가활용내역					
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지급액	5박 (24,25,26,27,28일 숙박, 연구비 카드)	금융기관	-	계좌번호	-
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내 용	25일 : Bernoulli-Carlitz and Cauchy-Carlitz numbers in terms of Stirling-Carlitz numbers - 1 26일 : Bernoulli-Carlitz and Cauchy-Carlitz numbers in terms of Stirling-Carlitz numbers - 2 27일 : Hypergeometric Euler numbers - 1 28일 : Hypergeometric Euler numbers - 2 1. Bernoulli-Carlitz and Cauchy-Carlitz numbers in terms of Stirling-Carlitz numbers Cauchy-Carlitz number are defined as the counterpart of the Bernoulli-Carlitz number. Both numbers can be expressed explicitly in terms of so-called Stirling-Carlitz numbers. In this talk, we give the second analogue of Stirling-Carlitz numbers and give some general formulae, including Bernoulli and Cauchy numbers in formal power				

series with complex coefficients, and Bernoulli-Carlitz and Cauchy-Carlitz numbers in functional fields. We also give some applications of Hasse-Teichmüller derivative to hypergeometric Bernoulli and Cauchy numbers in terms of associated Stirling numbers

2. Hypergeometric Euler numbers

For a nonnegative integer N, define hypergeometric Euler numbers $E_{N,n}$ by

$$\frac{1}{{}_1F_2(1;N+1,(2N+1)/2;t^2/4)}=\sum_{n=0}^{\infty}E_{N,n}\frac{t^n}{n!},$$

where ${}_1F_2(a;b,c;z)$ is the hypergeometric function defined by

$${}_1F_2(a;b,c;z)=\sum_{n=0}^{\infty}\frac{(a)^{(n)}}{(b)^{(n)}(c)^{(n)}}\frac{z^n}{n!}.$$

Here, $(x)^{(n)}$ is the rising factorial, defined by $(x)^{(n)}=x(x+1)\cdots(x+n+1)$ $(n\geq 1)$ with $(x)^{(0)}=1$.
When $N=0$, then $E_n=E_{0,n}$ are classical Euler numbers.
Hypergeometric Euler numbers $E_{N,n}$ are analogues of hypergeometric Bernoulli numbers $B_{N,n}$ and hypergeometric Cauchy numbers $c_{N,n}$, defined by

$$\frac{1}{{}_1F_1(1;N+1;t)}=\sum_{n=0}^{\infty}B_{N,n}\frac{t^n}{n!}$$

and

$$\frac{1}{{}_2F_1(1,N;N+1;-t)}=\sum_{n=0}^{\infty}c_{N,n}\frac{t^n}{n!},$$

respectively.
In this talk, we give several expressions and sums of products of hypergeometric Euler numbers. We also introduce complementary hypergeometric Euler numbers and give some characteristic properties.

※ 내용에는 활용 분야 및 내용을 상세히 기술.

위와 같이 연구수행을 위하여 전문가를 활용하였기에 전문가활용비를 지급하여 주시기 바랍니다.

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