

[Home](#) > [List of Issues](#) > [Table of Contents](#) > [On the integral of the product of the Appell polynomials](#)

[Browse journal](#)

[View all volumes and issues](#)

[Current issue](#)

[Latest articles](#)

[Most read articles](#)

[Most cited articles](#)

[Authors and submissions](#)

[Subscribe](#)

[About this journal](#)

[News & offers](#)

Integral Transforms and Special Functions

Volume 25, Issue 9, 2014

Seleziona lingua ▼

[Translator disclaimer](#)



On the integral of the product of the Appell polynomials

Sorry, you do not have access to this article.

How to gain access:

Recommend to your librarian that your institution purchase access to this publication.

Log in

If you already have an individual subscription, please log in using your Taylor & Francis Online ID to gain access.

Email Address <input type="text"/>	Password <input type="text"/> Forgot password <input type="text"/>	<input type="checkbox"/> Remember Me	<input type="button" value="Sign in"/>
------------------------------------	--	--------------------------------------	--

- [Forgot password](#)
- [Register](#)
- [Shibboleth](#)
- [OpenAthens](#)

Purchase options	Price *
<input type="radio"/> Article Purchase	EUR 36,00
<input type="button" value="Add to cart"/>	
*Local tax will be added as applicable	

DOI:

10.1080/10652469.2014.894041

Jianxin Liu^a, Hao Pan^b & Yong Zhang^{c*}

pages 680–685

Publishing models and article dates explained

- Received: 12 Nov 2013
- Accepted: 10 Feb 2014
- Published online: 18 Mar 2014

Article Views: 207

Article usage statistics combine cumulative total PDF downloads and full-text HTML views from publication date (but no earlier than 25 Jun 2011, launch date of this website) to 19 Jan 2015. Article views are only counted from this site. Although these data are updated every 24 hours, there may be a 48-hour delay before the most recent numbers are available.

Preview View full text Download full text
Access Options

AJ

- TOC email alert
- TOC RSS feed
- Citation email alert
- Citation RSS feed

Abstract

We establish an explicit formula for the integral of the product of several Appell polynomials.

- View full text
- Download full text
-

Keywords

- Appell polynomial,
- Euler polynomial,
- the probabilists' Hermite polynomial,
- Primary: 11B68,
- Secondary: 11B65,
- 11B83

Related articles

View all related articles

-

- Add to shortlist
- Link

Permalink

<http://dx.doi.org/10.1080/10652469.2014.894041>

- Download Citation
- Recommend to:
- A friend

First page preview

Close

Download full text

Integral Transforms and Special Functions, 2014

Vol. 25, No. 9, 680–685, <http://dx.doi.org/10.1080/10652469.2014.894041>

**On the integral of the product of the Appell polynomials**

Jianxin Liu^a, Hao Pan^b and Yong Zhang^{c*}

^aDepartment of Teaching Affairs, Nanjing Institute of Technology, Nanjing 211167, People's Republic of China; ^bDepartment of Mathematics, Nanjing University, Nanjing 210093, People's Republic of China;

(Received 12 November 2013; accepted 10 February 2014)

We establish an explicit formula for the integral of the product of several Appell polynomials.

Keywords: Appell polynomial; Euler polynomial; the probabilists' Hermite polynomial

2010 Mathematics Subject Classification: Primary: 11B68; Secondary: 11B65, 11B83

1. Introduction

The Bernoulli polynomial $B_n(x)$ is given by

$$\sum_{n=0}^{\infty} B_n(x) \frac{t^n}{n!} = \frac{t e^{xt}}{e^t - 1}.$$

In particular, set the Bernoulli number $B_n = B_n(0)$. As early as 1924, Nörlund [1] proved that

$$\int_0^1 B_k(z) B_l(z) dz = (-1)^{k+l} \frac{k!!}{(k+l)!} B_{k+l}, \quad (1.1)$$

where $k+l \geq 2$. Later, Carlitz [2] extended (1.1) to the products of three and four Bernoulli polynomials. And Wilson [3] obtained an explicit formula for

$$\int_0^1 \bar{B}_k(az) \bar{B}_l(bz) \bar{B}_m(cz) dz,$$

where $\bar{B}_k(x)$ is the periodic extension of $B_k(x)$ on $[0, 1)$ and a, b, c are pairwise coprime integers.

*Corresponding author. Email: yongzhang1982@163.com

© 2014 Taylor & Francis

[Click to decrease image size](#)

- Information
- Full text
- References
- Reprints & permissions

Details

- **Citation information:** Web of Science ®
- **Received:** 12 Nov 2013
- **Accepted:** 10 Feb 2014
- **Published online:** 18 Mar 2014



Author affiliations

- ^a Department of Teaching Affairs, Nanjing Institute of Technology, Nanjing 211167, People's Republic of China
- ^b Department of Mathematics, Nanjing University, Nanjing 210093, People's Republic of China
- ^c Department of Mathematics and Physics, Nanjing Institute of Technology, Nanjing 211167, People's Republic of China