附件 2　　浙江水利水电学院“南浔青年学者”申请表

<table>
<tr><td>姓　名</td><td>李震</td><td>出生年月年龄
（年龄）</td><td>1992 年 09 月
（ 31 岁）</td><td>参加工作时间</td><td>2023 年 04 月</td></tr>
<tr><td>现所在单位
（部门）</td><td>浙江水利水电学院</td><td>最高学历/学位</td><td>研究生/博士</td><td>专业技术职务</td><td>讲师</td></tr>
<tr><td>符合条款</td><td colspan="5">符合科研类基点：3 类论文 2 篇；5 类论文 1 篇</td></tr>
<tr><td rowspan="5"></td><td rowspan="3">科研类
绩点：120</td><td colspan="4">[1] Zhen Li, Feifei Wang, Lin Liu*, Yixin Liu, Jikai Liu, Juming Yao*. Highly sensitive, breathable and durable E-textiles integrated by graphene ink via scalable aerodynamics assisted screen printing. Cellulose (2022) 11:12016-12026.（3 类）</td></tr>
<tr><td colspan="4">[2] Zhen Li, Wenli Gong, Xuan Chen, Lin Liu*, Ranju Meng, Yanhong- Ding, Juming Yao*. Sustainable cationic cellulose for highly efficient flocculation of Kaolin suspension. Cellulose (2021) 28:11097-11108.（3 类）</td></tr>
<tr><td colspan="4">[3] Zhen Li, Xuan Chen, Xin Chen, Jiangqiang Guo, Lin Liu, Guocheng Zhu, JiRi Militky, Juming Yao. Interfacial-modified graphene/cotton fabric for durable pressure sensor via electrostatic self-assembly. ACS Aapplied Polymer Materials, (2022)4:11, 8604-8612.（5 类）</td></tr>
<tr><td>总绩点</td><td colspan="4">120</td></tr>
<tr><td colspan="5">备注：请严格按照《浙江水利水电学院“南浔青年学者”实施办法（试行）》（浙水院〔2022〕114 号）附件《业绩成果绩点赋值项目库》的类目、分类、等级（等次）、绩点填写。</td></tr>
<tr><td>个人承诺</td><td colspan="5">本人承诺上述所填内容真实、准确；如有不实，本人承担相应责任。
签名：李震　时间：2023.11.14</td></tr>
<tr><td colspan="6">以上部分由申请人填写，所在单位审核。以下由单位（部门）和学校填写。</td></tr>
<tr><td>所在单位
（部门）意见</td><td colspan="5">1.经审核，申请人所填内容：☐属实　☐不属实；
2.是否符合所申请的类别：☐符合　☐不符合；
3.是否同意推荐：☐同意　☐不同意。
负责人签名：　（部门盖章）
____年____月____日</td></tr>
<tr><td>科技处
审核意见</td><td colspan="2">负责人签名：　（部门盖章）
____年____月____日</td><td>教务处
审核意见</td><td colspan="2">负责人签名：　（部门盖章）
____年____月____日</td></tr>
<tr><td>其他相关职能
部门审核意见</td><td colspan="5">负责人签名：　（部门盖章）
____年____月____日</td></tr>
<tr><td>学校意见</td><td colspan="5">（学校盖章）
____年____月____日</td></tr>
</table>

备注：表格请用 A4 纸打印，有关佐证材料附后。

Cellulose
https://doi.org/10.1007/s10570-022-04544-3

ORIGINAL RESEARCH

Highly sensitive, breathable and durable E-textiles integrated by graphene ink via scalable aerodynamics assisted screen printing

Zhen Li · Feifei Wang · Lin Liu · Yixin Liu · Jikai Liu · Xinxin Chen · Juming Yao

Received: 23 October 2021 / Accepted: 17 March 2022

Abstract Flexible wearable electronic textiles (E-textiles) are predicted to apply in the intelligence management of physical training for automatic, intelligent, and scientific health management. Recently, printing electronic is one of the attractive processes for the large-scale manufacturing of patterned E-textiles. However, it is an enormous challenge that achieve sensing functionality without sacrificing the original performance of fabric. Herein, we proposed a new scalable aerodynamic assisted screen print technology to develop highly sensitive, breathable, and durable electronic textiles via the integration of graphene ink. Briefly, stable graphene ink was fabricated based on the exfoliation and dispersion of cellulose/PEDOT:PSS solution, and directly screen printed on spandex/cotton blend fabric (SCBF) with the assisting of airflow pressure. The as-prepared ink infiltrated and wrapped along the fiber surface by aerodynamic assisted screen printing instead of filling fabric inter-fibers, endowing the SCBF with conductivity (82.16 Ω/sq), flexibility and breathability. Consequently, the acquired E-textile exhibited superior air permeability (38.5 L·m^2/s), washing durability (> 50 cycles), excellent sensitivity (GF = 36), strain sensing performance and stability (> 9000 cycles). Finally, a monitoring smart garment has been demonstrated to show the potential of a large-scale E-textile for physical training or health management.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10570-022-04544-3.

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Sustainable cationic cellulose for highly efficient flocculation of Kaolin suspension

Zhen Li · Wenli Gong · Xuan Chen · Lin Liu · Ranju Meng · Yanhong Ding · Juming Yao

Received: 2 June 2021 / Accepted: 16 September 2021

Abstract Green bio-flocculants from renewable biomass resources have received the widespread attention for wastewater treatment, which are promising alternatives to petroleum-based synthetic flocculants. In this paper, sustainable cationic cellulose bio-flocculants with various amino group contents were successfully prepared by a feasible chemical crosslinking with polyethyleneimine (PEI). The flocculation performances of diverse PEI-grafting cellulose (CE-PEI) were evaluated to purify turbid Kaolin suspension. Further, the flocculation kinetics and flocculation mechanism were investigated. Benefiting from the high surface positive charges and supramolecular structure, CE-PEI bio-flocculants with amino group contents of 17.5 mmol/g displayed the best turbidity removal efficiency. The residual turbidity of Kaolin suspension decreased from the initial 480–8.6 NTU, a 98.2% reduction with CE-PEI dosage of 0.15 mg/mL, sedimentation time of 30 min at pH 7.0. Flocculation kinetic results indicated that interaction of aggregation and collision between CE-PEI bio-flocculants and Kaolin particles was sufficient for the flocculation process at the optimal CE-PEI dosage. Moreover, charge neutralization was the dominant mechanism for the flocculation of CE-PEI on Kaolin. Thus, this work not only exploits a promising application of cellulose as a bio-flocculant, but also provides a feasible approach to efficiently purify high turbidity wastewater.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10570-021-04211-z.

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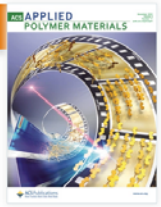
Published online: 01 October 2021

Interfacial-Modified Graphene/Cotton Fabric for Durable Pressure Sensor via Electrostatic Self-Assembly

Zhen Li, Xuan Chen, Xin Chen, Jianqiang Guo, Lin Liu*, Guocheng Zhu, Jiri Militky, and Juming Yao*

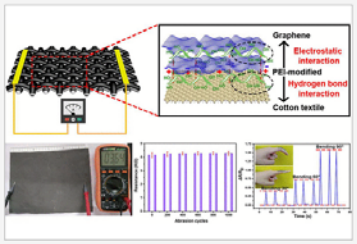
Cite this: *ACS Appl. Polym. Mater.* 2022, 4, 11, 8604–8612
Publication Date: November 2, 2022
https://doi.org/10.1021/acsapm.2c01530



ACS Applied Polymer Materials

Abstract

Flexible, wearable pressure sensors have been widely studied in the fields of motion detection, health management, and human–computer interaction. However, the unsatisfactory stability and durability limit its application, due to the weak interface interaction between the flexible substrate and conductive layer. Herein, we design a wearable pressure sensor with good sensitivity and stability by integrating a conductive cellulose/exfoliated graphene (CEG) ink with polyethylenimine-modified cotton fabrics (PEI-CFs). The negatively charged graphene was obtained via liquid-phase exfoliation of graphite in a sustainable cellulose solution. The pressure sensor was prepared by an electrostatic self-assembly process in which negatively charged CEG is adsorbed to the positively charged PEI-CFs. In this strategy, CEG ink combines firmly with the PEI-CF substrate, endowing the as-prepared pressure sensor with stable sensing performance and long-term stability. Due to these advantages, it can be used for human health monitoring, such as human motion, breathing, and microexpression. This work provides a simple and feasible route for the development of stable, durable, and high-performance wearable electronics.



浙江理工大学 ZHEJIANG SCI-TECH UNIVERSITY

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文献检索报告
Retrieval Report

单号：RT-2023-0186

本次查收查引工作是根据委托人提供的作者姓名、组织机构及文献列表进行的，委托人信息如下：

姓名：李震

机构：浙江理工大学 材料科学与工程学院

检索范围：

- 科学引文索引（Science Citation Index Expanded）： 1900年至2023年
- 期刊引证报告（Journal Citation Reports）： 1997年至2021年
- 中科院期刊分区表： 2005年至2022年

检索结果：

检索类型	数据库	年份范围	记录数	第一作者
SCI-E 收录	SCI-E	1900 - 2023	3	3

附件一：SCI-E 收录

#	作者	标题	来源出版物	JCR影响因子	中科院分区	出版物类型	入藏号
1	**Li, Z**; Chen, X; Chen, X; Guo, JQ; Liu, L; Zhu, GC; Militky, J; Yao, JM	Interfacial-Modified Graphene/Cotton Fabric for Durable Pressure Sensor via Electrostatic Self-Assembly	***ACS APPLIED POLYMER MATERIALS*** 2022, 9.	• 4.855 (2021);	• 大类(升级版) (2022) 化学 [2];	J Article; Early Access	WOS:000879595300001
2	**Li, Z**; Wang, FF; Liu, L; Liu, YX; Liu, JK; Chen, XX; Yao, JM	Highly sensitive, breathable and durable E-textiles integrated by graphene ink via scalable aerodynamics assisted screen printing	***CELLULOSE*** 2022, 29 (8): 4661-4671.	• 6.123 (2021);	• 大类(升级版) (2022) 材料科学 [2] Top 期刊;	J Article	WOS:000779242800001
3	**Li, Z**; Gong, WL; Chen, X; Liu, L; Meng, RJ; Ding, YH; Yao, JM	Sustainable cationic cellulose for highly efficient flocculation of Kaolin suspension	***CELLULOSE*** 2021, 28 (17): 11097-11108.	• 6.123 (2021);	• 大类(升级版) (2022) 材料科学 [2] Top 期刊; • 大类(升级版) (2021) 材料科学 [2] Top 期刊;	J Article	WOS:000702599800006
						合计	3

第 1 条，共 3 条：
标题：Interfacial-Modified Graphene/Cotton Fabric for Durable Pressure Sensor via Electrostatic Self-Assembly
作者：Li, Z (Li, Zhen); Chen, X (Chen, Xuan); Chen, X (Chen, Xin); Guo, JQ (Guo, Jianqiang); Liu, L (Liu, Lin); Zhu, GC (Zhu, Guocheng); Militky, J (Militky, Jiri); Yao, JM (Yao, Juming)
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入藏号：WOS:000879595300001
文献类型：Article; Early Access 出版物类型：J
作者地址：[Li, Zhen; Chen, Xuan; Chen, Xin; Guo, Jianqiang; Liu, Lin; Yao, Juming] Zhejiang Sci Tech Univ, Sch Mat Sci & Engn, Hangzhou 310018, Peoples R China.; [Liu, Lin; Zhu, Guocheng; Yao, Juming] Zhejiang Sci Tech Univ, Zhejiang Czech Joint Lab Adv Fiber Mat, Hangzhou 310018, Zhejiang, Peoples R China.; [Militky, Jiri] Tech Univ Liberec, Fac Text, Liberec 46117, Czech Republic.; [Li, Zhen; Chen, Xuan; Chen, Xin; Guo, Jianqiang; Yao, Juming] Ningbo Univ, Sch Mat Sci & Chem Engn, Ningbo 315211, Peoples R China.; University Liberec; Ningbo University
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JCR 影响因子：4.855 (2021);
中科院期刊分区：大类(升级版) (2022) 化学 [2];

第 2 条，共 3 条：
标题：Highly sensitive, breathable and durable E-textiles integrated by graphene ink via scalable aerodynamics assisted screen printing
作者：Li, Z (Li, Zhen); Wang, FF (Wang, Feifei); Liu, L (Liu, Lin); Liu, YX (Liu, Yixin); Liu, JK (Liu, Jikai); Chen, XX (Chen, Xinxin); Yao, JM (Yao, Juming)
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