

BULLETIN OF TOKYO METROPOLITAN
INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE

NO.9 2014

Papers

- Research and development of expert search system using hierarchical automatic tagging
Norihiro Ohira, Shinichi Tomiyama 2
- Development of non-contact respiration and heartbeat monitoring system
Kohei Fujiwara, Takeshi Kobayashi, Takemi Matsui, Masayuki Kagawa 6
- Lightning impulse withstand current capability evaluation method for SPD disconnecter
Taiju Kurosawa 10
- Development of an electronic power generator using the surplus energy generated during the shearing process using a crank press
Kenta Nakamura, Kenji Tamaoki, Kosuke Kuramochi 14
- Development of the ozone measuring instrument using the deep ultraviolet light-emitting diode
Hirotaka Nakamura, Yuji Takeda, Hiroyasu Sugano, Yumi Ahiko, Yoshinobu Aoyagi 18
- Development of functional materials for pressure measurements
Toru Yoshino, Kazuhiro Ookubo, Toshiyuki Yamanaka, Sadayuki Watanabe 22
- A simple fabrication of wound dressings with suppressed release of antibacterial agents using electrostatic properties of poly(vinyl alcohol)
Shunji Yunoki, Masushi Kohta, Yoshimi Ohyabu, Masayuki Sekiguchi,
Takabumi Kubo, Tetsuji Iwasaki 26
- Temperature-responsive characteristics of injectable collagen gel with improved mechanical properties by the addition of genipin as a crosslinker
Shunji Yunoki, Hirosuke Hatayama, Yoshimi Ohyabu 30
- Preparation of the electromagnetic wave suppressing sheet using a conductive material
Takeshi Ueno, Hidekatsu Sasaki, Manabu Oomori 34

| | | |
|--|--|----|
| Development of industrial computer that countermeasure against noise | | |
| | Hiroyasu Sano, Ken Sato, Fumio Takahashi, Toshinori Yamashita, Akihiro Tokikawa | 38 |
| Influence of the structure of polyhedron sandwich-core panel on mechanical properties | | |
| | Shunya Takahashi, Yasuhiro Nishikawa, Yujiro Abo | 42 |
| Manufacture of nonwoven fabrics from protection suits | | |
| | Risa Nagao, Ichiro Enomoto, Kengo Kubotera | 46 |
| Proposition of a speedier evaluation method for humidity conditioned architectural materials | | |
| | Saori Ikeda, Kazuhiko Hirai, Hidemi Koyama | 50 |
| Development of balloon robot | | |
| | Shigenobu Shimada, Toshiki Masuda, Yusuke Morita, Yusuke Kobayashi, Ryuta Atohama, Akinori Sasaki, Takeshi Yokosawa, Hiroaki Arai, Yasuharu Irizuki | 54 |
| Notes | | |
| Development of low-cost fabrication technology of optical waveguides on a circuit board | | |
| | Takashi Yamaguchi, Mamoru Ohara, Yuji Takeda | 64 |
| Development of high-performance photo-ionization detector (VOC sensor) | | |
| | Yasuyuki Hirano, Tsutomu Shinoda, Toru Ishiji, Tetsuya Iijima, Tatsuhiko Nishide | 66 |
| The effect of heat treatment on the hydrogen content of DLC films | | |
| | Aya Shimizu, Masahiro Kawaguchi | 68 |
| Evaluation of melt quality of AD12 aluminum alloy by vacuum gas test | | |
| | Kenji Sato, Koji Iwashimizu | 70 |
| Study of mid-far infrared irradiance spatial distribution measurement using thermopile sensor | | |
| | Kazutaka Isoda, Takayuki Shibuya, Toshiharu Nakajima | 72 |
| Development of a method for evaluation of abnormal noise from the product due to the vibration | | |
| | Toru Miyairi, Koichi Kanda, Asobu Hattori, Ryoji Fukuda | 74 |
| Measurement of sound transmission loss on small size specimen by sound intensity method | | |
| | Keiko Nishizawa, Koichi Kanda, Shigeyuki Watanabe, Asobu Hattori, Toru Miyairi | 76 |

| | | |
|---|--|-----|
| Large area photoresistor with the use of a silver sulfide thin film | Mizue Ebisawa, Kazutaka Isoda, Hiroyuki Yokota, Takayuki Shibuya | 78 |
| Reduction of error of the surface thermometry using the thermocouple | Toshiharu Nakajima, Haruhiko Numajiri, Masashi Sasaki | 80 |
| Carbon micro mold surface modified by the fluorine ion implantation | Yoshikazu Teranishi, Masanori Ishizuka, Hiroshi Nagasaka, Yuriko Kondo, Tomotaro Watanabe, Kazuo Morikawa, Isao Nakamura, Tetsuhide Shimizu, Atsushi Mitsuo, Tomohiro Kobayashi | 82 |
| Effect of paint on weatherability of heat-treated wood | Madoka Murai, Akiyoshi Onozawa, Yoshimi Kamiya, Toshio Kinoshita | 84 |
| Development of high efficiency fluorescent carbogenic dots | Kosei Hayashi, Hiroto Watanabe, Yuya Oaki, Hiroaki Imai | 86 |
| Synthesis of sub-nano tungsten oxide quantum dots by using supermicroporous silica | Hiroto Watanabe, Yuya Oaki, Hiroaki Imai | 88 |
| Development of formaldehyde sensor based on an enzyme cycling assay | Tomoko Gessei, Toshiaki Wada, Nobuyuki Sanari, Akira Monkawa | 90 |
| Study of uncertainty estimation method of laser interferometer | Yuuki Tokuta, Shouichi Nakanishi | 92 |
| Solidification of aluminum alloy chips by severe plastic deformation | Satoshi Kobune, Koichi Kanda, Shigeyuki Watanabe | 94 |
| Tightening conditions in consideration of the damage prevention on bolted timber joints | Doppo Matsubara, Takahiro Nakano, Masahiro Shimada | 96 |
| Development of slacks for supporting QOL improvement of diaper users | Akihiro Hirayama, Takashi Kato, Yukiko Tsukuda, Akiko Suzuki | 98 |
| Application of knitted metallic fabric to agricultural covering material | Yusuke Karaki, Kenji Iwasaki, Takashi Noguchi, Fujio Kaiho, Katsuhito Numajiri | 100 |

| | | |
|--|--|-----|
| Influence of the surface conditions of a specimen on the rapid identification of aluminum alloy scraps | Yasuyuki Yukawa, Kentaro Yamada, Michihisa Uemoto | 102 |
| Study on abrasive tool for polishing of glass | Yuya Suzuki, Syouichi Nakanishi | 104 |
| Development of silk fabric product using new pleat processing | Koji Takeda, Kengo Kobayashi, Mamoru Asakura, Mirai Yamaura, Akiko Watanabe | 106 |
| Improvement in thermal conductivity of resin by adding aluminum fiber | Taiki Tobusawa, Toshiyuki Yamanaka, Kenichi Shimizu, Masashi Kagawa, Naganori Ochiai, Yoshinori Nakao | 108 |
| Characteristics of tactile force in hand evaluation of fabrics | Takumi Yamada, Takako Koshiba | 110 |
| Effect of liquid-phase oxidation treatment assisted by microwave on carbon black | Kazuhiko Hirai, Saori Ikeda, Eiichi F. Mine | 112 |
| Abstracts other published papers and presented at society meeting | | |
| Papers | | 117 |
| Presentations | | 123 |
| Poster | | 132 |
| Review | | 138 |