

研究業績リスト

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【博士学位論文】

Paper-Structured Nanocatalyst Composites with a Hierarchical Fiber-Network Architecture for Energy Applications

ファイバーネットワーク階層構造を有するペーパー担持型金属ナノ触媒の開発とエネルギー分野への応用

2009年9月 九州大学大学院生物資源環境科学府

【原著論文（第一著者 14 報、第二著者 3 報）】

1. **Koga H.**, Fukahori S., Kitaoka T., Tomoda A., Suzuki R., Wariishi H. “Autothermal reforming of methanol using paper-like Cu/ZnO catalyst composites prepared by a papermaking technique”
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- ⑤ **Koga H.**, Kitaoka T., Wariishi H. “*In situ* synthesis of Cu nanocatalysts on ZnO whiskers embedded in a microstructured paper composite for autothermal hydrogen production”
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- ⑥ **Koga H.**, Kitaoka T., Wariishi H. “*In situ* synthesis of silver nanoparticles on zinc oxide whiskers incorporated in a paper matrix for antibacterial applications”
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Journal of Materials Science (IF2010=1.855), **44**(21), 5836-5841 (2009).

10. Ishihara H., **Koga H.**, Kitaoka T., Wariishi H., Tomoda A., Suzuki R. “Paper-structured catalyst for catalytic NO_x removal from combustion exhaust gas”

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- ① **Koga H.**, Umemura Y., Tomoda A., Suzuki R., Kitaoka T. “In situ synthesis of platinum nanocatalysts on a microstructured paperlike matrix for the catalytic purification of exhaust gases”

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Journal of Materials Science (IF2010=1.855), **45**(15), 4151-4157 (2010). **Corresponding author**

- ⑬ **Koga H.**, Tokunaga E., Hidaka M., Umemura Y., Saito T., Isogai A., Kitaoka T. “Topochemical synthesis and catalysis of metal nanoparticles exposed on crystalline cellulose nanofibers”

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研究成果が日刊工業新聞に掲載

【著書（第一著者2編）】

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Silver Nanoparticles, IN-TECH Education and Publishing KG, Vienna, 277-294 (2010).
2. **Koga H.**, Kitaoka T. “Paper-structured Catalyst Composites with a Ceramic Fiber-network Microstructure for Energy and Environmental Applications”
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【総説（第一著者2編）】

1. 古賀 大尚 「金属ナノ粒子のオンペーパー合成技術の開発と応用」
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1. **Koga H.**, Fukahori S., Kitaoka T., Wariishi H., Tomoda A., Suzuki R. “Autothermal reforming of methanol using catalyst paper with porous fiber network”
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【特許】

1. 古賀大尚、深堀秀史、石原裕丈、北岡卓也、鈴木涼
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5. 日高満美、古賀大尚、北岡卓也、磯貝明
セルロースナノファイバーおよび金属ナノ粒子を含む複合体、ならびにその製造方法
特願2009-035184 (2009); PCT出願 PCT/JP2010/052117

【新聞報道】

1. 東大、紙に触媒機能付与一溶液に浸け脱水・加熱
日刊工業新聞、2011年6月17日