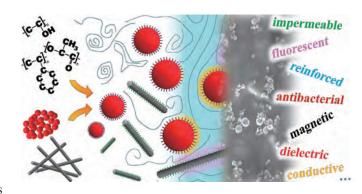
<Editorial>

1 Editor's Preface 巻頭言

<Review Papers>

3 Nanoparticle Filler Content and Shape in Polymer Nanocomposites

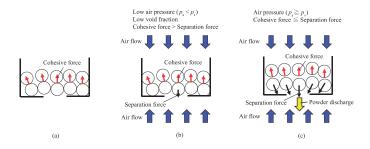
ポリマーナノコンポジットにおける ナノ粒子フィラーの充填量と形状



Christoph O. Blattmann and Sotiris E. Pratsinis

33 A Review: Recent Progress on Evaluation of Flowability and Floodability of Powder

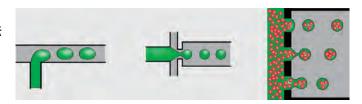
レビュー:粉体の流動性と噴流性の評価 に関する最近の進歩



Koichiro Ogata 尾形 公一郎

50 Droplet Microfluidics as a Tool for the Generation of Granular Matters and Functional Emulsions

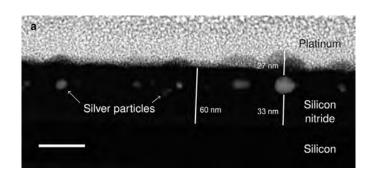
粉粒体および機能性エマルジョンの創製手法 としての液滴マイクロ流体技術



Adam S. Opalski, Tomasz S. Kaminski and Piotr Garstecki

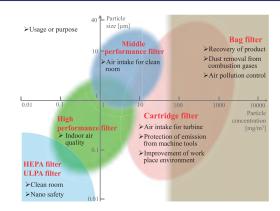
72 Using Nanoparticles as a Bottom-up Approach to Increase Solar Cell Efficiency

> 太陽光発電の高効率化のためのナノ粒子 を用いたボトムアップ的アプローチ



88 Fine Particle Filtration Technology Using Fiber as Dust Collection Medium

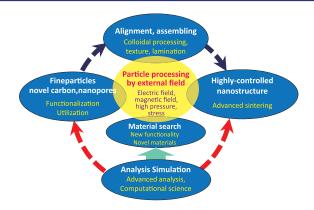
繊維状集じんろ材を用いた微粒子ろ過技術



Chikao Kanaoka 金岡 千嘉男

114 Fabrication of Ceramics with Highly Controlled Microstructures by Advanced Fine Powder Processing

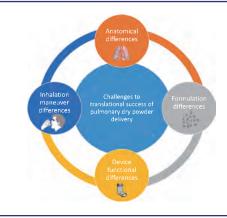
> 微粉体プロセスの高度化による高次構造 セラミックスの創製



Yoshio Sakka 目義雄

129 Challenges Associated with the Pulmonary Delivery of Therapeutic Dry Powders for Preclinical Testing

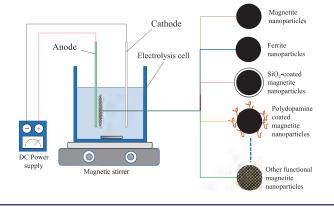
> 前臨床試験に向けての治療用ドライパウダーの 肺送達に関連する挑戦



Dominique N. Price, Nitesh K. Kunda and Pavan Muttil

145 Progress in the Preparation of Magnetite Nanoparticles through the Electrochemical Method

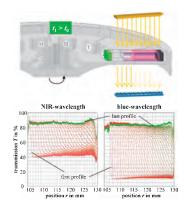
> マグネタイトナノ粒子の電気化学的合成法 の進歩



Heru Setyawan and W. Widiyastuti

156 Comprehensive Characterization of Nanoand Microparticles by In-Situ Visualization of Particle Movement Using Advanced Sedimentation Techniques

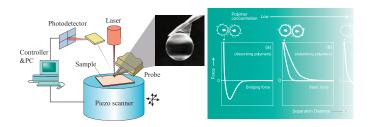
> 高度な沈降法を用いての粒子移動のその場観測による ナノ粒子と微粒子の広範囲キャラクタリゼーション



Dietmar Lerche

187 Direct Measurement of Interaction Forces between Surfaces in Liquids Using Atomic Force Microscopy

> 原子間力顕微鏡を用いた液相中の表面間 の相互作用力の直接測定

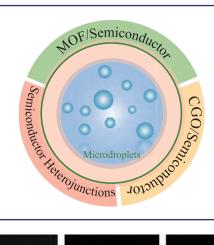


石田 尚之

Naoyuki Ishida and Vincent S. J. Craig

201 Rational Design of Efficient Semiconductorbased Photocatalysts via Microdroplets: A Review

> 微小液滴を用いた高効率半導体光触媒微粒子の 合理的製造に関する総説



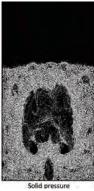
Xiang He and Wei-Ning Wang

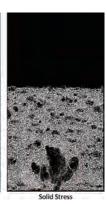
215 Dense Discrete Phase Model Coupled with Kinetic Theory of Granular Flow to Improve Predictions of Bubbling Fluidized Bed Hydrodynamics

> 気泡流動層の流動特性の予測を改善するため の粉粒体の運動特性を考慮した高密度離散相 モデルの開発

Abolhasan Hashemisohi, Lijun Wang and Abolghasem Shahbazi







<Original Research Papers>

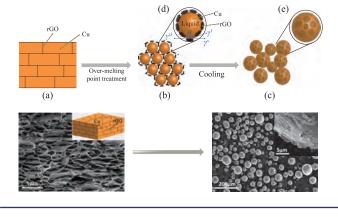
224 Uniform Spherical Graphene/Monocrystal-Copper Powder Fabricated by the Low Wettability of Liquid/Solid Interface

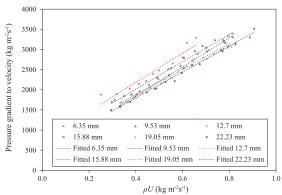
> 固-液界面の低濡れ性によるグラフェンを 被覆した均一球状単結晶銅粉の創製

Jimin Lyu, Ding-Bang Xiong, Zhanqiu Tan, Genlian Fan, Qiang Guo, Cuiping Guo, Zhiqiang Li and Di Zhang

232 Modified Ergun Equation for Airflow through Packed Bed of Loblolly Pine Grinds

> ロブロリー松の粉砕物の充填床を通過する 気流に有効なエルグン方程式の修正

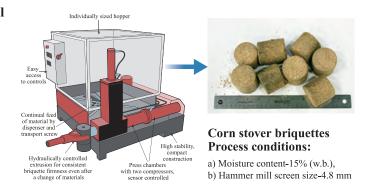




Gbenga Olatunde and Oladiran Fasina

241 Effect of Moisture Content and Hammer Mill Screen Size on the Briquetting Characteristics of Woody and Herbaceous Biomass

> 草木質バイオマスのブリケッティング特性 に及ぼす水分含量およびハンマーミルの スクリーンサイズの影響

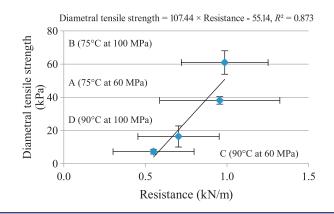


Jaya Shankar Tumuluru

252 Micromechanical Characterization of Particle-Particle Bond in Biomass Assemblies Formed at Different Applied Pressure and Temperature

> 異なる圧力および温度で形成されたバイオマス集合体における粒子間結合の微細な 機械的特性評価

Apoorva Karamchandani, Hojae Yi and Virendra M. Puri



264 The Swirl Reactor—a Reactor Concept for Continuous Gas-Solid Interactions

スワール反応器 連続的固-気相互作用 を考慮した反応器 Continuous process
Energy efficient – low heat loss
Handles fines/dust
Easily expandable

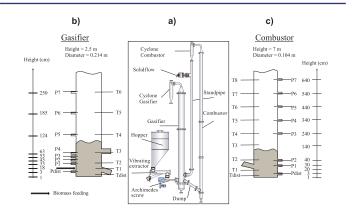
Swirl reactor
concept fulfills all
these requirements

Dag Øistein Eriksen, Oddvar Gorset and Håvar Gausemel

271 Hydrodynamic Study of a Circulating Fluidized Bed at High Temperatures: Application to Biomass Gasification

高温循環流動床の流体力学的研究: バイオマスガス化への応用

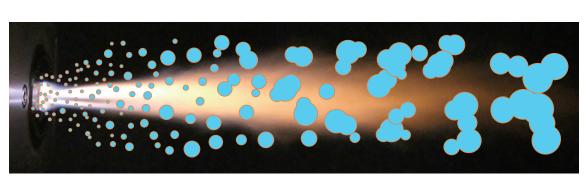
Sébastien Pecate, Mathieu Morin, Sid Ahmed Kessas, Mehrdji Hemati, Yilmaz Kara and Sylvie Valin



<Information Articles>

- 294 The 52nd Symposium on Powder Technology 第52回 粉体工学に関する講演討論会の開催
- 296 The 25th KONA Award 第25回KONA賞 (受賞者: ソティリス イー プラツィニス氏) (Awardee: Sotiris E. Pratsinis)
- 297 General Information 一般情報





Selected research achievements for the 25th KONA Award: Flame aerosol synthesis of nanostructured materials with closely controlled characteristics. (p.296)