Volume 65, Issue 2

16 January 2010

26008 - 81000004

CONTENTS

E.L. Perkins, J.P. Lowe, K.J. Edler and S.P. Rigby	611	Studies of structure-transport relationships in biodegradable polymer microspheres for drug delivery using NMR cryodiffusometry
M. Al-Sabawi and H. de Lasa	626	Modeling thermal and catalytic conversion of decalin under industrial FCC operating conditions
T. Hamzehlouyan, M. Kazemeini and F. Khorasheh	645	Modeling of catalyst deactivation in zeolite-catalyzed alkylation of isobutane with 2-butene
T.S. Ahmed, J.M. DeSimone and G.W. Roberts	651	Continuous precipitation polymerization of vinylidene fluoride in supercritical carbon dioxide: A model for understanding the molecular-weight distribution
S. Selvanathan and A.K. Tangirala	660	Time-delay estimation in multivariate systems using Hilbert transform relation and partial coherence functions
F. Malatesta	675	Comment on the individual ion activities of Na ⁺ and Cl ⁻ by Arce, Wilczek-Vera and Vera
L.A. Belfiore	680	Dynamic shear in continuous-flow rotating-disk catalytic reactors with stress-sensitive kinetics based on Curie's theorem in non-equilibrium thermodynamics
P.M. Kilonzo, A. Margaritis and M.A. Bergougnou	692	Hydrodynamic characteristics in an inverse internal-loop airlift-driven fibrous-bed bioreactor
P. Neogi	708	Large dynamic contact angles
C.S. Handscomb and M. Kraft	713	Simulating the structural evolution of droplets following shell formation
J. Yang, Q. Wang, M. Zeng and A. Nakayama	726	Computational study of forced convective heat transfer in structured packed beds with spherical or ellipsoidal particles
E. Rabinovich and H. Kalman	739	Phenomenological study of saltating motion of individual particles in horizontal particle-gas systems

Continued on inside back cover

Available online at



www.sciencedirect.com

INDEXED/ABSTRACTED in: Curr Cont ASCA/Eng Tech & Applied ScilSci Cit Ind/SCISEARCH Data, Chem Eng Biotech Abstr, PASCAL-CNRS Database, BIOSIS Database, Petroleum Abstracts, INSPEC Data, Aqua Abstr, Current Biotech Abstr, Chemical Abstracts Service, Curr Tech Ind, FLUIDEX, TCEA, Elsevier BIOBASE Current Awareness in Biological Sciences. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®.





0009-2509(20100116)65:2;1-R

CHEMICAL ENGINEERING SCIENCE

Volume 65, Issue 2

er

nd

		4
Continued from outside back cover		
J. Xiao, Y. Huang and C. Manke	753	Computational design of thermoset nanocomposite coatings: Methodological study on coating development and testing
A. Di Benedetto, P. Russo, P. Amyotte and N. Marchand	772	Modelling the effect of particle size on dust explosions
K. Kolomazník, T. Fürst and M. Bařinová	780	Non-linear diffusion model for optimization of leather manufacturing: Lime extraction from calcimine
A. Aït Aissa, C. Duchesne and D. Rodrigue	786	Polymer powders mixing part I: Mixing characterization in rotating cylinders
S. Sarathy, M.D. Wallis and S.K. Bhatia	796	Effect of catalyst loading on kinetics of catalytic degradation of high density polyethylene: Experiment and modelling
A. Anson, C.C.H. Lin, T.M. Kuznicki and S.M. Kuznicki	807	Separation of ethylene/ethane mixtures by adsorption on small- pored titanosilicate molecular sieves
N. Mladenov, J. Koop, S. Tischer and O. Deutschmann	812	Modeling of transport and chemistry in channel flows of automotive catalytic converters
S.K. Dahikar, J.B. Joshi, M.S. Shah, A.S. Kalsi, C.S. RamaPrasad and D.S. Shukla	827	Experimental and computational fluid dynamic study of reacting gas jet in liquid: Flow pattern and heat transfer
B. Benyahia, M.A. Latifi, C. Fonteix, F. Pla and S. Nacef	850	Emulsion copolymerization of styrene and butyl acrylate in the presence of a chain transfer agent. Part 1: Modelling and experimentation of batch and fedbatch processes
G. Modla, P. Lang and F. Denes	870	Feasibility of separation of ternary mixtures by pressure swing batch distillation
F. Denny, J. Scott, GD. Peng and R. Amal	882	Channelled optical fibre photoreactor for improved air quality control
S.J. Kowalski	890	Control of mechanical processes in drying. Theory and experiment
F.V. Zhurko, A.Yu. Manakov and V.I. Kosyakov	900	Formation of gas hydrates in the systems methanė-water-ROH (ROH=ethanol, <i>n</i> -propanol, <i>i</i> -propanol, <i>i</i> -butanol)
V.P. Melnikov, A.N. Nesterov, A.M. Reshetnikov, V.A. Istomin and V.G. Kwon	906	Stability and growth of gas hydrates below the ice-hydrate-gas equilibrium line on the $P-T$ phase diagram
G. Puxty, R. Rowland and M. Attalla	915	Comparison of the rate of ${\rm CO}_2$ absorption into aqueous ammonia and monoethanolamine
E.B. Nauman, K. Patel and P. Karande	923	On the design and optimization of diffusion-controlled, planar delivery devices
N. Zamel, N.G.C. Astrath, X. Li, J. Shen, J. Zhou, F.B.G. Astrath, H. Wang and ZS. Liu	931	Experimental measurements of effective diffusion coefficient of oxygen-nitrogen mixture in PEM fuel cell diffusion media
S.H. Hejazi and J. Azaiez	938	Non-linear interactions of dynamic reactive interfaces in porous media
G.M. Sisoev, O.K. Matar, R.V. Craster and S. Kumar	950	Coherent wave structures on falling fluid films flowing down a flexible wall

16 January 2010

I. Bombard, B. Da Silva, P. Dufour and 962 Experimental predictive control of the infrared cure of a powder P. Laurent coating: A non-linear distributed parameter model based approach Y. Bao, L. Chen, Z. Gao and J. Chen 976 Local void fraction and bubble size distributions in cold-gassed and hot-sparged stirred reactors J.-F. Cornet 985 Calculation of optimal design and ideal productivities of volumetrically lightened photobioreactors using the constructal approach M.M. Mandal, V. Kumar and K.D.P. Nigam 999 Augmentation of heat transfer performance in coiled flow inverter vis-à-vis conventional heat exchanger M. Stamatakis 1008 Cell population balance, ensemble and continuum modeling frameworks: Conditional equivalence and hybrid approaches K. Wohlgemuth, F. Ruether and 1016 Sonocrystallization and crystallization with gassing of adipic acid G. Schembecker Y. Voloshin and A. Lawal 1028 Overall kinetics of hydrogen peroxide formation by direct combination of H2 and O2 in a microreactor E. Darakis, T. Khanam, A. Rajendran, 1037 Microparticle characterization using digital holography V. Kariwala, T.J. Naughton and A.K. Asundi I. Figueroa, W.L. Vargas and J.J. McCarthy 1045 Mixing and heat conduction in rotating tumblers

Vol

Co

K.