

Chemical Engineering Journal 118 (2006) 234-236

Chemical Engineering Journal

www.elsevier.com/locate/cej

# Subject Index of Volume 118

Accelerated carbonation

The effect	of carbon	dioxide on	β-dicalcium	silicate	and	Portland	cement,
107							

- Aerobic wastewater treatment
  - Aerobic treatment of wastewaters in the inverse fluidised bed biofilm reactor, 199
- $Ag/MnO_{r}-CeO_{2}$ 
  - Complete oxidation of formaldehyde over  $Ag/MnO_x$ -CeO<sub>2</sub> catalysts, 119

## Air washer

Removal of gaseous pollutants with a UV-C  $_{\rm 254+185\ nm}/TiO_2$  irradiation system coupled with an air washer, 127

# Al-Fe

A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29

# Alum

Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99

Anhydrous silicate minerals

The effect of carbon dioxide on  $\beta\mbox{-dicalcium}$  silicate and Portland cement, 107

# AOPs

- A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29
- Biochemical reactor

Discrete algebraic estimator design for non-linear Liouvillian systems with sampled output: Application to a class of stirred bioreactor, 23

Biological wastewater treatment

Aerobic treatment of wastewaters in the inverse fluidised bed biofilm reactor, 199

Butane dehydrogenation

## Cadmium

Kinetic modelling of the facilitated transport of cadmium (II) using Cyanex 923 as ionophore, 213

- Carbon dioxide sequestration
  - The effect of carbon dioxide on  $\beta$ -dicalcium silicate and Portland cement, 107
- Catalytic oxidation
- H<sub>2</sub>S catalytic oxidation on impregnated activated carbon: Experiment and modelling, 133

Catalytic reactors

Derivation of a simple equation for the determination of kinetics coefficients in packed-bed reactors, 17

Catalytic wet hydrogen peroxide oxidation

Treatment of textile wastewater by heterogeneous Fenton process using a new composite  $Fe_2O_3$ /carbon, 77

Catalytic wet peroxide oxidation

A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29

Channel geometry
Effects of channel geometry on mixing performance of micromixers using
collision of fluid segments, 189
Char combustion
Numerical prediction of combustion of carbon particle clusters in a circulating fluidized bed riser, 1
Characterization
The effect of carbon dioxide on β-dicalcium silicate and Portland cement, 107
Chitosan
Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99
Circulating fluidized bed riser
Numerical prediction of combustion of carbon particle clusters in a circulating fluidized bed riser, 1
Cluster
Numerical prediction of combustion of carbon particle clusters in a circulating fluidized bed riser, 1
Coal gasification
Ion flotation of germanium from fly ash aqueous leachates, 69 Collision of fluid segments
Effects of channel geometry on mixing performance of micromixers using
collision of fluid segments, 189
Complete oxidation
Complete oxidation of formaldehyde over Ag/MnO <sub>y</sub> -CeO <sub>2</sub> catalysts, 119
Computational techniques
Derivation of a simple equation for the determination of kinetics coefficients
in packed-bed reactors, 17
Contaminated land
Remediation of contaminated media using a jet pump. Part 2. Remediation
dynamics of significant parameters in the jet pump remediation process, 55
Remediation of contaminated media using a jet pump. Part 1: Screening for significant parameters, 221
Cyanex 923
Kinetic modelling of the facilitated transport of cadmium (II) using Cyanex 923 as ionophore, 213
Decomposition products
Removal of gaseous pollutants with a UV-C <sub>254+185 nm</sub> /TiO <sub>2</sub> irradiation
system coupled with an air washer, 127
Discrete algebraic estimator
Discrete algebraic estimator design for non-linear Liouvillian systems with sampled output: Application to a class of stirred bioreactor, 23
Electroplating industry
Physico-chemical treatment techniques for wastewater laden with heavy
metals, 83
Environmental engineering
Remediation of contaminated media using a jet pump. Part 2. Remediation dynamics of significant parameters in the jet pump remediation process, 55
Remediation of contaminated media using a jet pump. Part 1: Screening for significant parameters, 221

Characteristics of the metallic phase of Pt/Al<sub>2</sub>O<sub>3</sub> and Na-doped Pt/Al<sub>2</sub>O<sub>3</sub> catalysts for light paraffins dehydrogenation, 161

#### Ethanol

Methane steam reforming and ethanol steam reforming using a Ni(II)-Al(III) catalyst prepared from lamellar double hydroxides, 11

# Fluidization

- Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Fluidized bed
- Fluidized bed photoreactors using composites of titania CVD-coated onto quartz sand as photocatalyst: Assessment of photochemical efficiency, 153 Fluidized bed reactor
- Effects of hydrogen peroxide in a fluidized bed photocatalytic reactor for wastewater purification, 207
- Formaldehyde

Complete oxidation of formaldehyde over Ag/MnO<sub>x</sub>–CeO<sub>2</sub> catalysts, 119

## Germanium

Ion flotation of germanium from fly ash aqueous leachates, 69

- Half-coil jacketed vessels
  - Modeling & dynamic studies of heat transfer cooling of liquid in half-coil jackets, 183
- Heat transfer coefficient

Modeling & dynamic studies of heat transfer cooling of liquid in half-coil jackets, 183

- Heavy metal uptake
  - Physico-chemical treatment techniques for wastewater laden with heavy metals, 83
- Heterogeneous Fenton process
  - Treatment of textile wastewater by heterogeneous Fenton process using a new composite Fe<sub>2</sub>O<sub>3</sub>/carbon, 77
- High-fructose syrup
  - Analysis of the high-fructose syrup production using reactive SMB technology, 167
- Hydrodynamic characteristics
  - Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Hydrodynamics
  - Measurements of toluene-water dispersions hold-up using a non-invasive ultrasonic technique, 47
- Hydrogen peroxide
  - Treatment of textile wastewater by heterogeneous Fenton process using a new composite Fe<sub>2</sub>O<sub>3</sub>/carbon, 77
  - Effects of hydrogen peroxide in a fluidized bed photocatalytic reactor for wastewater purification, 207
- Hydrogen production
  - Methane steam reforming and ethanol steam reforming using a Ni(II)-Al(III) catalyst prepared from lamellar double hydroxides, 11
- Hydrogen sulfide
  - $\rm H_2S$  catalytic oxidation on impregnated activated carbon: Experiment and modelling, 133
- IGCC fly ash
- Ion flotation of germanium from fly ash aqueous leachates, 69
- Impregnated activated carbon
  - $\rm H_2S$  catalytic oxidation on impregnated activated carbon: Experiment and modelling, 133
- Inorganic effluent
  - Physico-chemical treatment techniques for wastewater laden with heavy metals, 83
- Inverse fluidised bed biofilm reactor
  - Aerobic treatment of wastewaters in the inverse fluidised bed biofilm reactor, 199
- Ion flotation
- Ion flotation of germanium from fly ash aqueous leachates, 69 Iron oxides
  - Treatment of textile wastewater by heterogeneous Fenton process using a new composite Fe<sub>2</sub>O<sub>3</sub>/carbon, 77

- Isomerization kinetics
  - Analysis of the high-fructose syrup production using reactive SMB technology, 167
- Jet pump
  - Remediation of contaminated media using a jet pump. Part 2. Remediation dynamics of significant parameters in the jet pump remediation process, 55
  - Remediation of contaminated media using a jet pump. Part 1: Screening for significant parameters, 221

# Kinetic modelling

 $H_2S$  catalytic oxidation on impregnated activated carbon: Experiment and modelling, 133

## Leaching

Ion flotation of germanium from fly ash aqueous leachates, 69 Liouvillian systems

- Discrete algebraic estimator design for non-linear Liouvillian systems with sampled output: Application to a class of stirred bioreactor, 23
- Liquid-liquid systems
  - Measurements of toluene-water dispersions hold-up using a non-invasive ultrasonic technique, 47
- Low density biomass support
  - Aerobic treatment of wastewaters in the inverse fluidised bed biofilm reactor, 199

#### Mathematical model

- Modeling & dynamic studies of heat transfer cooling of liquid in half-coil jackets, 183
- Mathematical modeling
  - Derivation of a simple equation for the determination of kinetics coefficients in packed-bed reactors, 17
- Metal-contaminated water
  - Physico-chemical treatment techniques for wastewater laden with heavy metals, 83
- Methane

Methane steam reforming and ethanol steam reforming using a Ni(II)-Al(III) catalyst prepared from lamellar double hydroxides, 11

#### Micromixer

- Effects of channel geometry on mixing performance of micromixers using collision of fluid segments, 189
- Minimum spout-fluidizing velocity
  - Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Minimum spouting velocity
  - Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Molecular oxygen activation

Complete oxidation of formaldehyde over Ag/MnO<sub>x</sub>-CeO<sub>2</sub> catalysts, 119

# Na-doped alumina

Characteristics of the metallic phase of  $Pt/Al_2O_3$  and Na-doped  $Pt/Al_2O_3$  catalysts for light paraffins dehydrogenation, 161

#### Ni(II)-Al(III) LDH

- Methane steam reforming and ethanol steam reforming using a Ni(II)-Al(III) catalyst prepared from lamellar double hydroxides, 11
- Nitrogen oxides
  - Absorption–reduction technique assisted by ozone injection and sodium sulfide for NO<sub>y</sub> removal from exhaust gas, 63
- NOx
  - Removal of gaseous pollutants with a UV- $C_{254+185 \text{ nm}}/\text{TiO}_2$  irradiation system coupled with an air washer, 127

## Numerical simulation

- Numerical prediction of combustion of carbon particle clusters in a circulating fluidized bed riser, 1
- Analysis of the high-fructose syrup production using reactive SMB technology, 167

Ozone

Absorption–reduction technique assisted by ozone injection and sodium sulfide for NO<sub>v</sub> removal from exhaust gas, 63

# Packed-bed

- Derivation of a simple equation for the determination of kinetics coefficients in packed-bed reactors, 17
- Palm oil mill effluent
  - Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99
- Phenol oxidation
  - A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29
- Photocatalysis
- Effects of hydrogen peroxide in a fluidized bed photocatalytic reactor for wastewater purification, 207
- Photodegradation

Removal of gaseous pollutants with a UV-C $_{254+185 \text{ nm}}$ /TiO $_2$  irradiation system coupled with an air washer, 127

- Pillared clavs
  - A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29
- Polyaluminum chloride
  - Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99
- Pressure drop
  - Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Pt/alumina catalysts
  - Characteristics of the metallic phase of Pt/Al<sub>2</sub>O<sub>3</sub> and Na-doped Pt/Al<sub>2</sub>O<sub>3</sub> catalysts for light paraffins dehydrogenation, 161
- Reaction kinetics
  - Derivation of a simple equation for the determination of kinetics coefficients in packed-bed reactors, 17
- Reactive simulated moving bed
  - Analysis of the high-fructose syrup production using reactive SMB technology, 167
- Recovery
- Ion flotation of germanium from fly ash aqueous leachates, 69
- Reducing agent
  - Absorption–reduction technique assisted by ozone injection and sodium sulfide for NO<sub>x</sub> removal from exhaust gas, 63
- Remediation
  - Remediation of contaminated media using a jet pump. Part 2. Remediation dynamics of significant parameters in the jet pump remediation process, 55
  - Remediation of contaminated media using a jet pump. Part 1: Screening for significant parameters, 221
- Residue oil
  - Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99
- Reynolds number
  - Effects of channel geometry on mixing performance of micromixers using collision of fluid segments, 189

# Sampled output

Discrete algebraic estimator design for non-linear Liouvillian systems with sampled output: Application to a class of stirred bioreactor, 23

## Scrubber

- Remediation of contaminated media using a jet pump. Part 2. Remediation dynamics of significant parameters in the jet pump remediation process, 55 Remediation of contaminated media using a jet pump. Part 1: Screening for significant parameters, 221
- Share rate
  - Effects of channel geometry on mixing performance of micromixers using collision of fluid segments, 189
- Sodium sulfide
  - Absorption-reduction technique assisted by ozone injection and sodium sulfide for NO<sub>2</sub> removal from exhaust gas, 63
- Spout-fluid bed
  - Hydrodynamic characteristics of spout-fluid bed: Pressure drop and minimum spouting/spout-fluidizing velocity, 37
- Steam reforming
  - Methane steam reforming and ethanol steam reforming using a Ni(II)-Al(III) catalyst prepared from lamellar double hydroxides, 11
- Sugars adsorption
  - Analysis of the high-fructose syrup production using reactive SMB technology, 167
- Supported liquid membrane
  - Kinetic modelling of the facilitated transport of cadmium (II) using Cyanex 923 as ionophore, 213
- Supported photocatalysts and radiation field modeling

Fluidized bed photoreactors using composites of titania CVD-coated onto quartz sand as photocatalyst: Assessment of photochemical efficiency, 153 Suspended solid

- Suspended solid
  - Coagulation of residue oil and suspended solid in palm oil mill effluent by chitosan, alum and PAC, 99

## Textile wastewater

- Treatment of textile wastewater by heterogeneous Fenton process using a new composite Fe<sub>2</sub>O<sub>2</sub>/carbon, 77
- Three-phase fluidised bed biological reactor
  - Aerobic treatment of wastewaters in the inverse fluidised bed biofilm reactor, 199

# TiO<sub>2</sub>

- Removal of gaseous pollutants with a UV- $C_{254+185 \text{ nm}}$ /TiO<sub>2</sub> irradiation system coupled with an air washer, 127
- Effects of hydrogen peroxide in a fluidized bed photocatalytic reactor for wastewater purification, 207

# Toluene

Removal of gaseous pollutants with a UV-C<sub>254+185 nm</sub>/TiO<sub>2</sub> irradiation system coupled with an air washer, 127

## Transport

Kinetic modelling of the facilitated transport of cadmium (II) using Cyanex 923 as ionophore, 213

#### Ultrasounds

Measurements of toluene-water dispersions hold-up using a non-invasive ultrasonic technique, 47

## Water pollution control

Physico-chemical treatment techniques for wastewater laden with heavy metals, 83

# Zr-Fe

A comparison of Al-Fe and Zr-Fe pillared clays for catalytic wet peroxide oxidation, 29