

## CONTENTS

### Essay

.....H. MORITOMI ..... (197)

### Special Articles: RGB Joint Symposium - Recycle, Gasification and Biomass: Present Status of Technology for Using Wastes, Biomass and Coal, etc.

#### (Reviews)

Wave Power Generation System Applying Gyroscopic Moment  
..... H. KANKI ..... (198)

Gasification of Lignite Coal Using Twin Circulating Fluidized Bed Gasifier  
..... T. SUDA ..... (201)

Technology Converts Sewage Sludge into Fuel  
..... A. UEDA ..... (206)

Conversion of Unused Biomasses to Resources and Energy Using Sub-critical Water Treatment  
..... H. YOSHIDA ..... (212)

Technology for Liquefaction of Wood Biomass by Microwave Treatment  
..... H. NOMOTO ..... (218)

Outlook of DME (Dimethyl ether) 2010  
..... K. NAKAMURA ..... (224)

Present Situation of Gasification and Melting Treatment Technology for Municipal Solid Waste in Japan  
..... H. FUJIYOSHI ..... (230)

### Original Paper

Influence on Electricity Grid Composition and Petroleum Refinery Process by Installation of Residual Oil IGCC  
..... H. ONO, K. ARAKI, T. ODA, T. MIYAZAKI, Y. UEDA, A. AKISAWA ..... (235)

An Inventory Analysis of Sewage Energy System  
..... Y. KIMURO, T. FURUBAYASHI, T. NAKATA ..... (247)

Analysis on Employment Effects of the Introduction of Renewable Energy Technologies  
Using an Extended Input-output Table  
..... N. MATUMOTO, H. HONDO ..... (258)

### Short Paper

Effects of Hot Compressed Water Treatment with Phosphoric Acid for Enzymatic Saccharification of Rice Straw  
..... T. YOSHIMURA, S. INOUE, T. ENDO ..... (268)

Estimation of Carbon Aromaticity for Asphaltenes through Elemental Analysis and Proton NMR :  
Carbon Aromaticity of Pentane-insoluble and Heptane-soluble Fraction  
..... S. SATO ..... (274)

### Lecture Note

Coal (6) :  
Molecular Model of Coal Structure..... T. TAKANOHASHI ..... (277)

~~~~~  
Introduction of Research Group (Osaka University, Graduate School of Engineering,  
Department of Mechanical Engineering, Combustion Engineering Laboratory)..... (284)

Report on the 6th Conference on Biomass Science ..... (288)

Entropy ..... (292) JIE Calendar ..... (293)

Bulletin Board ..... (294) From the Editors..... (295)

~~~~~