

Kister Distillation Symposium 2017 (Full Papers)

Topical Conference at the 2017 AIChE Spring Meeting and
13th Global Congress on Process Safety

San Antonio, Texas, USA
26 – 30 March 2017

ISBN: 978-1-5108-4280-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by AIChE
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact AIChE
at the address below.

AIChE
120 Wall Street, FL 23
New York, NY 10005-4020

Phone: (800) 242-4363
Fax: (203) 775-5177

www.aiche.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

DRY TRAY PRESSURE DROP OF SIEVE TRAYS REVISTED	1
<i>D. Summers, T. Cai</i>	
MULTIPLE STEADY STATES IN 2-PASS HYDRAULICS OF MOVING VALVE TRAYS	13
<i>M. Olsson, H. Kister</i>	
TROUBLESHOOTING EB/SM SPLITTERS: HOW CAN A MALDISTRIBUTION ANALYSIS HELP?	43
<i>S. Krishnamoorthy, L. Yang</i>	
VACUUM DISTILLATION: WASH ZONE CONFIGURATION	59
<i>A. Sloley</i>	
OPTIMIZING PUMPAROUND BALANCE BETWEEN ENERGY AND FRACTIONATION EFFICIENCY	91
<i>S. Lee</i>	
SHELL CONSEP™ TRAYS IMPROVE DIESEL RECOVERY AND NAPHTHA QUALITY IN A DHT STRIPPER	104
<i>G. Cantley, W. Villiers, E. Vos, G. Kamyszek</i>	
RIGOROUS TROUBLESHOOTING IDENTIFIED CRUDE COLUMN CONSTRAINTS	115
<i>J. Burns, K. Becht, B. Mueller</i>	
CORRECT PROBLEM DIAGNOSIS DEBOTTLENECKS A GAS PLANT WITH NO HARDWARE CHANGES	130
<i>H. Kister</i>	
ON THE ROLE OF PROPER MIST ELIMINATION SYSTEM FOR DISTILLATION TOWER PERFORMANCE	141
<i>B. Ferraro, V. Sturm, M. Montani, J. Torgal, A. Bastida, N. Clark</i>	
TROUBLESHOOTING TOWER CARRYOVER	155
<i>E. Grave, N. Yeh, J. Juarez</i>	
A BETTER(?) WAY TO CALCULATE THE SLOPE OF THE EQUILIBRIUM LINE	167
<i>R. Taylor, M. Duss</i>	
NOVEL OPTIMIZATION OF A DIVIDING WALL DISTILLATION COLUMN	192
<i>B. Roach, R. Eldridge, D. Barsotti</i>	
IMPROVE ENERGY EFFICIENCY OF DWCS	205
<i>M. Bhargava, N. Suzuki</i>	
COMPONENT TRAPPING WITH VLE UNCERTAINTY: PRINCIPLES AND TROUBLESHOOTING	225
<i>P. Mathias, H. Kister, B. Parker, L. Narvaez, T. Schafer, A. Erickson</i>	
THE SUCCESSFUL APPLICATION OF A PARTITION FLOW SPRAY TRAY (PFST®) IN C4 EXTRACTIVE DISTILLATION	247
<i>Y. Zhuang, E. Shang</i>	
TRAY OPERATING WINDOW – DESCRIPTION AND APPLICATIONS	263
<i>A. Bernard</i>	
HIDDEN TIES - AN EXPLANATION FOR O'CONNELL'S SUCCESS	285
<i>M. Duss, R. Taylor</i>	
BUBBLE CAP TRAY VAPOR TURNDOWN	298
<i>D. Summers</i>	
MARINIZATION OF MASS TRANSFER COLUMNS FOR FLNG APPLICATIONS	306
<i>M. Schultes, J. Brauer, P. Chen, S. Doong</i>	
FLOW-INDUCED TRAY VIBRATIONS AND PREVENTION	317
<i>T. Cai, T. Lin</i>	
HIGH PERFORMANCE TRAYS FOR A FRACTIONATOR IN AN AROMATICS PLANT	334
<i>L. Hua, A. Peng</i>	
ADVANCE IN HIGH PERFORMANCE SPRAY TRAY DEVELOPMENT AND THEIR INDUSTRIAL APPLICATIONS	343
<i>Y. Zhuang</i>	
PACKED BED PERFORMANCE ANALYTICS BASED ON GAMMA SCANS	363
<i>L. Pless</i>	
RECTIFYING A REACTIVE DISTILLATION COLUMN	374
<i>G. Theunick</i>	

DISTILLATION CONTROL – STILL AN ISSUE	385
<i>S. Nino</i>	
DETAILS MATTER WHEN DESIGNING HOT VAPOR BYPASSES	402
<i>D. Hanson</i>	
SILENCING HAMMERING IN A FLOODED CONDENSER SYSTEM.....	413
<i>H. Kister, C. Mueller, M. Gunn</i>	
TRICKY LIQUID DISTRIBUTORS.....	428
<i>P. Lenfeld, D. Lin</i>	
DISTILLATION TOWER INSPECTION FOR TURNAROUNDS AND REVAMPS	437
<i>D. Bouck</i>	
QUANTIFICATION OF THE EFFECT OF VISCOSITY ON POINT EFFICIENCY OF SIEVE TRAYS IN DISTILLATION COLUMNS	482
<i>R. Manivannan, M. Dupre, K. McCarley, T. Cai, S. Mohammad, C. Aichele</i>	
INVESTIGATING THE IMPACT OF FEED-AIR SATURATION IN AIR-WATER SPRAY ENTRAINMENT.....	493
<i>M. Dupre, R. Manivannan, T. Cai, K. McCarley, C. Aichele</i>	
EFFECT OF LIQUID VISCOSITY ON MASS TRANSFER FOR PACKINGS	506
<i>D. Song, A. Seibert, G. Rochelle</i>	
MOLECULE TRACKING - A NEW WAY TO ANALYZE DISTILLATION COLUMNS.....	518
<i>C. Maat</i>	
Author Index	