

研究業績（学術雑誌掲載論文）

加納 学

2012- 京都大学大学院情報学研究科システム科学専攻

1994-2012 京都大学大学院工学研究科化学工学専攻

[最多被引用論文（2014年12月現在，SCOPUS）]

- 1) Manabu Kano, Shouhei Tanaka, Shinji Hasebe, Iori Hashimoto, Hiromu Ohno: **Monitoring Independent Components for Fault Detection**. *AIChE Journal*, Vol.49, No.4, pp. 969-976 (2003) [cited by 200]
- 2) Manabu Kano, Yoshiaki Nakagawa: **Data-Based Process Monitoring, Process Control, and Quality Improvement: Recent Developments and Applications in Steel Industry**. *Computers & Chemical Engineering*, Vol.32, No.1-2, pp.12-24 (2008) [cited by 140]
- 3) Manabu Kano, Koichi Miyazaki, Shinji Hasebe, Iori Hashimoto: **Inferential Control System of Distillation Compositions Using Dynamic Partial Least Squares Regression**. *Journal of Process Control*, Vol.10, No.2-3, pp.157-166 (2000) [cited by 122]
- 4) Manabu Kano, Hiromu Ohno, Shinji Hasebe, Iori Hashimoto: **A New Multivariate Statistical Process Monitoring Method Using Principal Component Analysis**. *Computers & Chemical Engineering*, Vol.25, No.7-8, pp.1103-1113 (2001) [cited by 95]
- 5) Manabu Kano, Koji Nagao, Hiromu Ohno, Shinji Hasebe, Iori Hashimoto, Ramon Strauss, Bhavik R. Bakshi: **Comparison of Multivariate Statistical Process Monitoring Methods with Applications to the Eastman Challenge Problem**. *Computers & Chemical Engineering*, Vol.26, No.2, pp.161-174 (2002) [cited by 92]

[論文リスト]

- 1) Toshiya Hirai and Manabu Kano: Adaptive Virtual Metrology Design for Semiconductor Dry Etching Process through Locally Weighted Partial Least Squares. *IEEE Transaction on Semiconductor Manufacturing*, accepted
- 2) Sanghong Kim, Manabu Kano, Hiroshi Nakagawa, Shinji Hasebe: Input Variable Scaling for Statistical Modeling, *Computers and Chemical Engineering*, Vol. 74, pp. 59-65 (2015)
- 3) Iftikhar Ahmad, Manabu Kano, Shinji Hasebe, Hiroshi Kitada, Noboru Murata: **Prediction of Molten Steel Temperature in Steel Making Process with Uncertainty by Integrating Gray-Box Model and Bootstrap Filter**. *Journal of Chemical Engineering of Japan*, Vol. 47, No. 11, pp. 827-834 (2014)

- 4) Masahiro Ono, Reiko J. Tanaka, Manabu Kano: **Visualisation of the T Cell Differentiation Programme by Canonical Correspondence Analysis of Transcriptomes**. *BMC Genomics*, 15:1028 (2014)
- 5) Takuya Miyano, Manabu Kano, Hideaki Tanabe, Hiroshi Nakagawa, Tomoyuki Watanabe, Hidemi Minami: **Spectral Fluctuation Dividing for Efficient Wavenumber Selection: Application to Estimation of Water and Drug Content in Granules Using Near Infrared Spectroscopy**. *International Journal of Pharmaceutics*. Vol. 475, No. 1–2, pp. 504–513 (2014)
- 6) Iftikhar Ahmad, Manabu Kano, Shinji Hasebe, Hiroshi Kitada, Noboru Murata: **Gray-Box Modeling for Prediction and Control of Molten Steel Temperature in Tundish**. *Journal of Process Control*, Vol. 24, Issue 4, pp. 375–382 (2014)
- 7) Hiroshi Nakagawa, Manabu Kano, Shinji Hasebe, Takuya Miyano, Tomoyuki Watanabe, Naoki Wakiyama: **Verification of Model Development Technique for NIR-Based Real-Time Monitoring of Ingredient Concentration During Blending**. *International Journal of Pharmaceutics*, Vol. 471, No. 1–2, pp. 264–275 (2014)
- 8) Zhiqiang Ge, Zhihuan Song, Manabu Kano: **External Analysis-Based Regression Model for Robust Soft Sensing of Multimode Chemical Processes**. *AIChE Journal*, Vol. 60, No. 1, pp. 136–147 (2014)
- 9) Iftikhar Ahmad, Hiroyuki Mabuchi, Manabu Kano, Shinji Hasebe, Yoshikazu Inoue, Hiroaki Uegaki: **Data-Based Ground Fault Diagnosis of Power Cable Systems**. *SICE Journal of Control, Measurement, and System Integration*, Vol. 6, No. 4, pp. 290–297 (2013)
- 10) Sanghong Kim, Manabu Kano, Shinji Hasebe, Akitoshi Takinami, Takeshi Seki: **Long-Term Industrial Applications of Inferential Control Based on Just-In-Time Soft-Sensors: Economical Impact and Challenges**. *Industrial & Engineering Chemistry Research*, Vol. 52, No. 35, pp. 12346–12356 (2013)
- 11) Sanghong Kim, Ryota Okajima, Manabu Kano, Shinji Hasebe: **Development of Soft-sensor Using Locally Weighted PLS with Adaptive Similarity Measure**. *Chemometrics and Intelligent Laboratory Systems*, Vol. 124, pp. 43–49 (2013)
- 12) Jesús Alcántara-Avila, Shinji Hasebe, Manabu Kano: **New Synthesis Procedure to Find the Optimal Distillation Sequence with Internal and External Heat Integrations**, *Industrial & Engineering Chemistry Research*, Vol. 52, No. 13, pp. 4851–4862 (2013)
- 13) Hiroshi Nakagawa, Manabu Kano, Shinji Hasebe, Tatsuya Suzuki, Naoki Wakiyama: **Real-Time Monitoring of Lubrication Properties of Magnesium Stearate Using NIR Spectrometer and Thermal Effusivity Sensor**. *International*

Journal of Pharmaceutics, Vol. 441, Issues 1-2, pp. 402-413 (2013)

- 14) Manabu Kano, Koichi Fujiwara: **Virtual Sensing Technology in Process Industries: Trends and Challenges Revealed by Recent Industrial Applications.** *Journal of Chemical Engineering of Japan*, Vol. 46, No. 1, pp. 1-17 (2013)
- 15) Masahiro Ono, Reiko J. Tanaka, Manabu Kano, Toshio Sugiman: **Visualising the Cross-Level Relationships between Pathological and Physiological Processes and Gene Expression: Analyses of Haematological Diseases.** *PLoS ONE*, Vol. 8, Issue 1, e53544 (2013)
- 16) Toshinori Okura, Iftikhar Ahmad, Manabu Kano, Shinji Hasebe, Hiroshi Kitada, Noboru Murata: **High-Performance Prediction of Molten Steel Temperature in Tundish through Gray-Box Model.** *ISIJ International*, Vol. 53, No. 1, pp. 76-80 (2013)
- 17) Koichi Fujiwara, Hiroshi Sawada, Manabu Kano: **Input Variable Selection for PLS Modeling Using Nearest Correlation Spectral Clustering.** *Chemometrics and Intelligent Laboratory Systems*, Vol.118, pp.109–119 (2012)
- 18) S. Sonoda, N. Murata, H. Hino, H. Kitada, M. Kano: **A Statistical Model for Predicting the Liquid Steel Temperature in Ladle and Tundish by Bootstrap Filter.** *ISIJ International*, Vol.52, No.6, pp.1086-1091 (2012)
- 19) J. Rafael Alcantara-Avila, Manabu Kano, Shinji Hasebe: **Multiobjective Optimization for Synthesizing Compressor-Aided Distillation Sequences with Heat Integration.** *Industrial & Engineering Chemistry Research*, Vol.51, No.17, pp.5911-5921 (2012)
- 20) Hiroshi Nakagawa, Takahiro Tajima, Manabu Kano, Sanghong Kim, Shinji Hasebe, Tatsuya Suzuki, Hiroaki Nakagami: **Evaluation of Infrared-Reflection Absorption Spectroscopy Measurement and Locally Weighted Partial Least Squares for Rapid Analysis of Residual Drug Substances in Cleaning Processes.** *Analytical Chemistry*, Vol.84, No.8, pp.3820-3826 (2012)
- 21) Koichi Fujiwara, Manabu Kano, Shinji Hasebe: **Development of Correlation-Based Pattern Recognition Algorithm and Adaptive Soft-Sensor Design.** *Control Engineering Practice*, Vol.20, No.4, pp.371-378 (2012)
- 22) Sanghong Kim, Manabu Kano, Hiroshi Nakagawa, Shinji Hasebe: **Estimation of Active Pharmaceutical Ingredients Content Using Locally Weighted Partial Least Squares and Statistical Wavelength Selection.** *International Journal of Pharmaceutics*, Vol.421, No.2, pp.269-274 (2011)
- 23) Koichi Fujiwara, Manabu Kano, Shinji Hasebe: **Correlation-based spectral clustering for flexible process monitoring.** *Journal of Process Control*, Vol.21, Issue 10, pp.1438-1448 (2011)
- 24) Manabu Kano, Hiroshi Makita, Shinji Hasebe: **Prediction of Multiple Steady**

- States in Distillation through Simple Mass and Heat Balance Analysis.** *Industrial & Engineering Chemistry Research*, Vol.50, No.3, pp.1346-1351 (2011)
- 25) Hiroyasu Shigemori, Manabu Kano, Shinji Hasebe: **Optimum Quality Design System for Steel Products through Locally-Weighted Regression Model.** *Journal of Process Control*, Vol.21, Issue 2, pp.293-301 (2011)
- 26) 信貴洋平, 加納学, 長谷部伸治: **モデル予測制御システムにおけるモデルとプロセスのミスマッチ検出.** 計測自動制御学会論文集, Vol.46, No.10, pp.607-614 (2010)
- 27) Lin Wang, Manabu Kano, Shinji Hasebe: **Effect of Operation Strategy and Control Structure on Multiple Steady-States of Heat Integrated Distillation Column (HIDiC).** *Journal of Chemical Engineering of Japan*, Vol.43, No.10, pp.857-864 (2010)
- 28) Manabu Kano, Morimasa Ogawa: **The State of the Art in Chemical Process Control in Japan: Good Practice and Questionnaire Survey.** *Journal of Process Control*, Vol.20, Issue 9, pp.969-982 (2010)
- 29) 茂森弘靖, 南部康司, 長尾亮, 荒木義, 水島成人, 加納学, 長谷部伸治: **制約付き局所回帰モデルを用いた鋼材の平面形状制御.** 計測自動制御学会論文集, Vol.46, No.8, pp.472-479 (2010)
- 30) 河野浩司, 加納学, 長谷部伸治, 鹿野昌和: **不確定要素を考慮したレシピ設計支援システムの開発とその樹脂コンパウンド製品設計への適用.** 化学工学会論文集, Vol.36, No.4, pp.405-412 (2010)
- 31) Hiroya Seki, Morimasa Ogawa, Toshiaki Ito, Shigeki Ootakara, Hisashi Murata, Yoshihiro Hashimoto, Manabu Kano: **Plantwide Control System Design of the Benchmark Vinyl Acetate Monomer Production Plant.** *Computers & Chemical Engineering*, Vol.34, Issue 8, pp.1282-1295 (2010)
- 32) Koichi Fujiwara, Manabu Kano, Shinji Hasebe: **Development of Correlation-based Clustering Method and Its Application to Software Sensing.** *Chemometrics and Intelligent Laboratory Systems*, Vol.101, Issue 2, pp.130-138 (2010)
- 33) Shiro Masuda, Manabu Kano, Yusuke Yasuda: **A Fictitious Reference Iterative Tuning Method with Simultaneous Delay Parameter Tuning of the Reference Model.** *International Journal of Innovative Computing, Information and Control*, Vol.6, No.7, pp. 2927-2939 (2010)
- 34) Koichi Fujiwara, Manabu Kano, Shinji Hasebe, Akitoshi Takinami: **Soft-Sensor Development Using Correlation-Based Just-In-Time Modeling.** *AIChE Journal*, Vol.55, Issue 7, pp.1754-1765 (2009)
- 35) 田坂謙一, 加納学, 小河守正, 増田士朗, 山本透: **閉ループデータに基づく直接的 PID 調整とその不安定プロセスへの適用.** システム制御情報学会論文誌, Vol.22, No.4, pp.137-144 (2009)
- 36) Manabu Kano, Seunghyun Lee, Shinji Hasebe: **Two-Stage Subspace**

Identification for Softsensor Design and Disturbance Estimation. *Journal of Process Control*, Vol.19, No.2, pp. 179-186 (2009)

- 37) 茂森弘靖, 長尾亮, 平田直人, 南部康司, 池田展也, 水島成人, 加納学, 長谷部伸治: **局所回帰モデルを用いた鋼材の品質制御**. 計測自動制御学会論文集, Vol.44, No.4, pp.325-332 (2008)
- 38) 藤原幸一, 加納学, 長谷部伸治: **相関型 Just-In-Time モデリングによるソフトセンサの設計**. 計測自動制御学会論文集, Vol.44, No.4, pp.317-324 (2008)
- 39) 中川義明, 加納学, 中川繁政, 谷崎隆士: **統計的アプローチによる鉄鋼製品品質改善**. 日本設備管理学会誌, Vol.19, No.4, pp.220-227 (2008)
- 40) Osamu Tonomura, Takayuki Tominari, Manabu Kano, Shinji Hasebe: **Operation Policy for Micro Chemical Plants with External Numbering-up Structure.** *Chemical Engineering Journal*, Vol.135, Supplement 1, S131-S137 (2008)
- 41) Manabu Kano, Yoshiaki Nakagawa: **Data-Based Process Monitoring, Process Control, and Quality Improvement: Recent Developments and Applications in Steel Industry.** *Computers & Chemical Engineering*, Vol.32, No.1-2, pp.12-24 (2008)
- 42) Seunghyun Lee, 加納学, 長谷部伸治: **2 段階部分空間同定法によるソフトセンサー設計**. 計測自動制御学会論文集, Vol.43, No.10, pp.869-876 (2007)
- 43) Manabu Kano, Tomohiro Fukushima, Hiroshi Makita, Shinji Hasebe: **Multiple Steady-States in a Heat Integrated Distillation Column (HIDiC).** *Journal of Chemical Engineering of Japan*, Vol.40, No.10, pp.824-831 (2007)
- 44) Manabu Kano, Toku Fujioka, Osamu Tonomura, Shinji Hasebe, Masaru Noda: **Data-Based and Model-Based Blockage Diagnosis for Stacked Microchemical Processes.** *Chemical Engineering Science*, Vol.62, Issue 4, pp.1073-1080 (2007)
- 45) Tomohiro Fukushima, Manabu Kano, Shinji Hasebe: **Dynamics and Control of Heat Integrated Distillation Column (HIDiC).** *Journal of Chemical Engineering of Japan*, Vol.39, No.10, pp. 1096-1103 (2006)
- 46) 藤原幸一, 加納学, 長谷部伸治, 大野弘: **ウェーブレット解析を用いたバッチプロセス操作プロファイルの最適化**. 計測自動制御学会論文集, Vol.42, No.10, pp.1143-1149 (2006)
- 47) 藤原幸一, 加納学, 長谷部伸治, 大野弘: **運転データに基づく階層型品質改善システムの開発: 品質制御のための操作変数選択**. 計測自動制御学会論文集, Vol.42, No.8, pp.909-915 (2006)
- 48) 加納学, 藤原幸一, 長谷部伸治, 大野弘: **運転データに基づく品質改善のための定性的品質情報の定量化**. 計測自動制御学会論文集, Vol.42, No.8, pp.902-908 (2006)
- 49) Hiroshi Maruta, Manabu Kano, Hidekazu Kugemoto, Keiko Shimizu: **Modeling and Detection of Stiction in Pneumatic Control Valves.** *Transactions of SICE*, Vol.E-4, No.1, pp.18-26 (2005) [translated from Japanese to English]

- 50) 丸田浩, 加納学, 久下本秀和, 清水佳子: 空気圧式調節弁固着現象のモデル化と固着検出法の開発. 計測自動制御学会論文集, Vol.40, No.8, pp.825-833 (2004)
- 51) Osamu Tonomura, Shotaro Tanaka, Masaru Noda, Manabu Kano, Shinji Hasebe, Iori Hashimoto: **CFD-Based Optimal Design of Manifold in Plate-Fin Microdevices**. *Chemical Engineering Journal*, Vol.101, pp.397-402 (2004)
- 52) Hirokazu Kamohara, Akitoshi Takinami, Makoto Takeda, Manabu Kano, Shinji Hasebe, Iori Hashimoto: **Product Quality Estimation and Operating Condition Monitoring for Industrial Ethylene Fractionator**. *Journal of Chemical Engineering of Japan*, Vol.37, No.3, pp.422-428 (2004)
- 53) Manabu Kano, Shinji Hasebe, Iori Hashimoto, Hiromu Ohno: **Evolution of Multivariate Statistical Process Control: Application of Independent Component Analysis and External Analysis**. *Computers & Chemical Engineering*, Vol.28, No.6-7, pp.1157-1166 (2004)
- 54) Manabu Kano, Natthaphon Showchaiya, Shinji Hasebe, Iori Hashimoto: **Inferential Control of Distillation Compositions: Selection of Model and Control Configuration**. *Control Engineering Practice*, Vol.11, No.8, pp.927-933 (2003)
- 55) Manabu Kano, Shouhei Tanaka, Shinji Hasebe, Iori Hashimoto, Hiromu Ohno: **Monitoring Independent Components for Fault Detection**. *AIChE Journal*, Vol.49, No.4, pp. 969-976 (2003)
- 56) 加納学, 田中章平, 丸田浩, 長谷部伸治, 橋本伊織, 大野弘: 外部分析と独立成分分析を用いた統計的プロセス運転監視. 計測自動制御学会論文集, Vol.38, No.11, pp.958-965 (2002)
- 57) Manabu Kano, Shinji Hasebe, Iori Hashimoto, Hiromu Ohno: **Statistical Process Monitoring Based on Dissimilarity of Process Data**. *AIChE Journal*, Vol.48, No.6, pp.1231-1240 (2002)
- 58) Manabu Kano, Koji Nagao, Hiromu Ohno, Shinji Hasebe, Iori Hashimoto, Ramon Strauss, Bhavik R. Bakshi: **Comparison of Multivariate Statistical Process Monitoring Methods with Applications to the Eastman Challenge Problem**. *Computers & Chemical Engineering*, Vol.26, No.2, pp.161-174 (2002)
- 59) Ken-Ichiro Sotowa, Takashi Hamamura, Hiroshi Taniguchi, Manabu Kano, Shinji Hasebe, Iori Hashimoto: **Influence of the Incomplete Dissolution of Fines in the Fines Dissolver on the Optimal Operation of Industrial Continuous DTB Crystallizers**. *Powder Technology*, Vol.121, pp.93-98 (2001)
- 60) Natthaphon Showchaiya, Manabu Kano, Shinji Hasebe, Iori Hashimoto: **Improvement of Distillation Composition Control by Using Predictive Inferential Control Technique**. *Journal of Chemical Engineering of Japan*, Vol.34, No.8, pp.1026-1032 (2001)
- 61) Manabu Kano, Hiromu Ohno, Shinji Hasebe, Iori Hashimoto: **A New Multivariate Statistical Process Monitoring Method Using Principal Component**

- Analysis.** *Computers & Chemical Engineering*, Vol.25, No.7-8, pp.1103-1113 (2001)
- 62) 加納学, 大野弘, 長谷部伸治, 橋本伊織: **新しい統計的プロセス管理手法の化学プロセスへの適用.** 計測自動制御学会論文集, Vol.37, No.2, pp.160-167 (2001)
- 63) Shinji Hasebe, Takashi Hamamura, Kiyoshi Naito, Ken-Ichiro Sotowa, Manabu Kano, Iori Hashimoto, Hitoshi Betsuyaku, Hironobu Takeda: **Optimal Operation of a Continuous DTB Crystallizer.** *Journal of Process Control*, Vol.10, No.5, pp.441-448 (2000)
- 64) Manabu Kano, Koji Nagao, Hiromu Ohno, Shinji Hasebe, Iori Hashimoto, Ramon Strauss, Bhavik R. Bakshi: **Comparison of Statistical Process Monitoring Methods: Application to the Eastman Challenge Problem.** *Computers & Chemical Engineering*, Vol.24, Nos.2-7, pp.175-181 (2000)
- 65) Kenichiro Sotowa, Kiyoshi Naito, Manabu Kano, Shinji Hasebe, Iori Hashimoto: **Application of the Method of Characteristics to Crystallizer Simulation and Comparison with Finite Difference for Controller Performance Evaluation.** *Journal of Process Control*, Vol.10, No.2-3, pp.203-208 (2000)
- 66) Manabu Kano, Koichi Miyazaki, Shinji Hasebe, Iori Hashimoto: **Inferential Control System of Distillation Compositions Using Dynamic Partial Least Squares Regression.** *Journal of Process Control*, Vol.10, No.2-3, pp.157-166 (2000)
- 67) 加納学, Natthaphone Showchaiya, 長谷部伸治, 橋本伊織: **蒸留塔製品組成制御を目的とした組成推定モデルの選択.** 化学工学論文集, 第 26 巻, 第 1 号, pp.94-99 (2000)
- 68) 加納学, 大野弘, 長谷部伸治, 橋本伊織: **2 型モデル予測制御系の設計.** 計測自動制御学会論文集, Vol.35, No.12, pp.1575-1582 (1999)
- 69) 加納学, 大野弘, 長谷部伸治, 橋本伊織: **時系列データの非類似度に基づく運転監視.** 化学工学論文集, 第 25 巻, 第 6 号, pp.1004-1009 (1999)
- 70) 加納学, 長尾浩二, 大野弘, 長谷部伸治, 橋本伊織: **移動主成分分析を用いた運転監視.** 化学工学論文集, 第 25 巻, 第 6 号, pp.998-1003 (1999)
- 71) 内藤清嗣, 外輪健一郎, 加納学, 長谷部伸治, 橋本伊織: **D T B 型連続晶析器の安定化制御-外部加熱器における微小結晶溶解残りの影響.** 化学工学論文集, 第 25 巻, 第 1 号, pp.51-58 (1999)
- 72) 外輪健一郎, 内藤清嗣, 加納学, 長谷部伸治, 橋本伊織: **晶析プロセスシミュレーションにおける特性曲線法と有限差分法の比較.** 化学工学論文集, 第 24 巻, 第 4 号, pp.665-669 (1998)
- 73) 加納学, 宮崎浩一, 長谷部伸治, 橋本伊織: **Partial Least Squares Regression を用いた蒸留塔製品組成の推定制御.** 化学工学論文集, 第 24 巻, 第 3 号, pp.425-430 (1998)
- 74) 内藤清嗣, 外輪健一郎, 加納学, 長谷部伸治, 橋本伊織: **連続晶析プロセスにおける結晶粒径分布の安定化制御.** 化学工学論文集, 第 24 巻, 第 2 号, pp.318-323 (1998)
- 75) 小河守正, 加納学, 橋本伊織: **ギャップ付き IP コントローラを用いた均流液面制御の設計法.** 化学工学論文集, 第 24 巻, 第 2 号, pp.259-265 (1998)

- 76) 加納学, 大野弘, 長谷部伸治, 橋本伊織: サーボ問題および漸近的外乱除去問題へのモデル予測制御の適用. 化学工学論文集, 第 23 卷, 第 3 号, pp.421-427 (1997)
- 77) 加納学, 枝連俊弘, 長谷部伸治, 橋本伊織, 大嶋正裕, 大加茂梅太郎, 鈴木剛, 青木昌二: 物理モデルと PLS モデルを併用したナフサ分解炉スキン温度推定システムの開発. 化学工学論文集, 第 22 卷, 第 5 号, pp.1130-1137 (1996)
- 78) 大嶋正裕, 加納学, 橋本伊織, 大野弘: 多周期多変数モデル予測制御の設計法. 化学工学論文集, 第 20 卷, 第 2 号, pp.240-247 (1994)