Ausgewählte Publikationen zum Forschungsschwerpunkt

Drehrohröfen / Rotary Kilns

Herz, F.; Mitov, I.; Specht, E.; Stanev, R.: Influence of the motion behavior on the contact heat transfer between the covered wall and solid bed in rotary kilns. Experimental Heat Transfer 28 (2015) 174-188.

Sunkara, K.; Herz, F.; Specht, E.; Mellmann, J.: Transverse flow at the flight surface in flighted rotary drum. Powder Technology 275 (2015), 161-171.

Komossa, H.; Wirtz, S.; Scherer, V.; Herz, F.; Specht, E.: Transversal bed motion in rotating drums using spherical particles: Comparison of experiments with DEM simulations. Powder Technology, 264 (2014) 96-104.

Stanev, R.; Mitov, I.; Specht, E.; Herz, F.: Geometrical characteristics of the solid bed in a rotary kiln. Journal of Chemical Technology and Metallurgy, 49, 1, 2014, 82-89.

Elattar, M.E.; Stanev, R.; Specht, E., Fouda, A.: CFD simulations of confined non-premixed jet flame in rotary kilns for gaseous fuels. Computers and Fluids International Journal, 102 (2014) 62-73.

Sunkara, R.K.; Herz, F.; Specht, E.; Mellmann, J.; Erpelding, R.: Modeling the discharge characteristics of rectangular flights in a flighted rotary drum. Powder Technology 234 (2013) 107-116.

Sunkara, R.K.; Herz, F.; Specht, E.; Mellmann, J.: Influence of flight design on the particle distribution of a flighted rotating drum. Chemical Engineering Science 90 (2013) 101-109.

Shi, Y.; Woche, H.; Specht, E.; Knabbe, J.; Sprinz, U.: Experimental investigation of solid bed depth at the discharge end of rotary kilns. Powder Technology, 197 (2010) 17-24.

Liu, X.Y; Specht, E.: Temperature distribution within the moving bed of rotary kilns: Measurement and analysis. Chemical Engineering&Processing 49, (2010), 147-150.

Liu, X.Y.; Specht, E.: Predicting the fraction of the mixing zone of a rolling bed in rotary kilns. Chemical Engineering Science 65 (2010), 3059-3063.

Liu, X.Y.; Zhou, S.J.; Specht, E.: Avalanche Time of Granular Flows in Rotary Kilns. Chemical Engineering &Technology 33 (2010), 1029-1033.

Herz, F.; Specht, E.: Analysis of local heat transfer in direct fired rotary kilns Proceedings of the 14th International Heat Transfer Conference (IHTC14-22086), August 8-13, 2010, Washington, DC, USA.

Liu, X.Y.; Zhou, S.J.; Specht, E.: Avalanche Time of Granular Flows in Rotary Kilns. Chemical Engineering &Technology 33 (2010), 1029-1033.

Liu, X.Y.; Specht, E.: Predicting the fraction of the mixing zone of a rolling bed in rotary kilns. Chemical Engineering Science 65 (2010), 3059-3063.

Liu, X.Y; Specht, E.: Temperature distribution within the moving bed of rotary kilns: Measurement and analysis. Chemical Engineering&Processing 49, (2010), 147-150.

Shi, Y.; Woche, H.; Specht, E.; Knabbe, J.; Sprinz, U.: Experimental investigation of solid bed depth at the discharge end of rotary kilns. Powder Technology, 197 (2010) 17-24.

Sonavane, Y.; Specht, E.: Study of temperature profile in the agitated bed of pilot scale externally heated rotary kiln. Proceedings of AICHE Spring Meeting, Tampara (Florida), 26.-30. April 2009. ISBN 978-0-8169-1052-6

Liu, X.Y.; Zhou, S.J.; Specht, E.: Image-based Measurement of the Surface Profile of the Cascading Granular Materials in Rotating Cylinders. Proceedings of 8th International Conference on Measurement and Control of Granular Materials (MCGM), Shenyang, China, 27-29 Aug. 2009, 37-39. ISBN 978-7-81102-737-2

Liu, X.Y.; Herz, F.; Specht, E.; Bensmann, S.; Gonzales, O.G.; Walzel, P.: Modeling the Transversal Motion of Granular Materials in Rotary Drums. Proceedings of 8th International Conference on Measurement and Control of Granular Materials (MCGM), Shenyang, China, 27-29 Aug. 2009, 87-90. ISBN 978-7-81102-737-2

Herz, F.; Sonavane, Y.; Specht, E.; Bensmann, S.; Walzel, P.: Dispersion Coefficients for the Mass and Heat Transport of Granular Material in the Agitated Bed of Rotating Drums. Proceedings of 8th International Conference on Measurement and Control of Granular Materials (MCGM), Shenyang, China, 27-29 Aug. 2009, 21-27. ISBN 978-7-81102-737-2

Herz, F.; Sonavane, Y,.; Specht, E.; Bensmann S.; Walzel, P.: Mixing Behaviour of Granular Material in the Agitated Bed of Rotating Drums. Bulk Solids and Powder-Science and Technology 4 (2009), 109-116.

Liu, X.; Zhang, J.; Specht, E.; Shi, Y.; Herz, F.: Analytical solution for the axial solids transport in rotary kilns. Chemical Engineering Science 64 (2009) 2, 428-431.

Agustini, S.; Queck, A.; Specht, E.: Modeling of the Regenerative Heat Flow of the Wall in Direct Fired Rotary Kilns. Heat Transfer Engineering 29 (2008) 1, 57-66.

Liu, X.; Specht, E.: Mean residence time and hold-up of solids in rotary kilns. Chemical Engineering Science, 61 (2006) 5176-5181.

Liu, X.; Specht, E.; Guerra Gonzales, O.; Walzel, P.: Analytical solution of the rolling – mode granular motion in rotary kilns. Chemical Engineering and Processing 45 (2006) 515-521.

Agustini, S.; Specht, E.: Influence of the Regenerative Heat of the Wall on the overall Heat Transfer in Rotary Kilns. Cement international 3 (2005), 60-73.

Liu, X.; Specht, E; Mellmann, J.: Experimental study of the upper and lower angle of repose of granular materials in rotating drums. Powder Technology 154 (2005) 125-131.

Liu; X.; Specht, E.; Mellmann, J.: Slumping-rolling transition of granular solids in rotary kilns. Chemical Engineering Science. 60 (2005) 3629-3636.

Liu, X.; Mellmann, J; Specht, E.: Factors influencing the rolling bed motion and transversial residence time of particles in rotary kilns. Cement, Lime, Gypsum int. 58 (2005) 62-73.

Mellmann, J.; Liu, X.; Specht, E.: Prediction of Rolling Bed Motion in Rotating Cylinders. AICHE Journal 50 (2004) 1, 2783-2793.

Giese, A.; Specht, E.: Einfluss der Gaszusammensetzung auf die Flammenlänge in Drehrohröfen. VDI Berichte Nr. 1750 (21. Deutsche Flammentag) (2003) 145-152.

Mellmann, J.; Specht, E.: Mathematical Modelling of the Transition Behaviour between the various Forms of Transverse Motion of Bulk Materials in Rotating Cylinders (Part 2). English and German. Cement, Lime, Gypsum Int. 54 (2001) 380 – 402.

Mellmann, J.; Specht, E.: Mathematische Modellierung des Übergangsverhaltens zwischen den Formen der transversalen Schüttgutbewegung in Drehrohren (Teil 1). Englisch und Deutsch. Zement, Kalk, Gips Int. 54 (2001), 281 – 296.