

References

- [1] García HR, Albarracín LC, Toscano A, Santana NJ, Insuasty O. Guía tecnológica para el manejo integral del sistema productivo de caña panelera. Colombia: Produmedios editorial para el sector agropecuario; 2007.
- [2] Gordillo G, García HR. Manual para el diseño y operación de hornillas paneleras. Colombia: Corpoica; 1992.
- [3] Demirbas A. Combustion characteristics of different biomass fuels. *Prog Energ Combust.* 2004;30(2):219-30.
- [4] Escalante H, Orduz J, Zapata HJ, Cardona MC, Duarte M. Atlas del potencial energético de la biomasa residual en Colombia. Colombia: Ediciones Universidad Industrial de Santander; 2011.
- [5] Yang YB, Ryu C, Khor A, Sharifi VN, Switzenbank J. Fuel size effect on pinewood combustion in a packed bed. *Fuel.* 2005;84(16):2026-38.
- [6] Yin C, Rosendahl LA, Kaer SK. Grate-firing of biomass for heat and power production. *Prog Energ Combust.* 2008;34(6):725-754.
- [7] García HR. Desarrollo de modelos demostrativos de hornillas de alta eficiencia térmica y bajo impacto ambiental de acuerdo con los niveles socioeconómicos y técnicos de las principales regiones productoras de panela en Colombia: final report. Bogotá: Corpoica; 2011.
- [8] Bryden MK, Hagge MJ. Modeling the combined impact of moisture and char shrinkage on the pyrolysis of a biomass particle. *Fuel.* 2003;82(13):1633-44.
- [9] Galgano A, Di Blasi C. Modeling the propagation of drying and decomposition front in wood. *Combust Flame.* 2004;139(1-2):16-27.
- [10] Yang YB, Ryu C, Khor A, Yates NE, Sharifi VN, Switzenbank J. Effect of fuel properties on biomass combustion. Part II. Modelling approach—identification of the controlling factors. *Fuel.* 2005;84(16):1039-46.
- [11] Shanmukharadhy KS. Simulation and thermal analysis of effect of fuel size on combustion in an industrial biomass furnace. *Energ Fuel.* 2007;21(4):1895-900.
- [12] Werther J, Saenger M, Hartge E-U, Ogada T, Siagi Z. Combustion of agricultural residues. *Prog Energ Combust.* 2000;26(1):1-27.
- [13] Woodfield LP, Kent JH, Dixon TF. Computational modeling of combustion instability in bagasse-fired furnaces. *Exp Therm Fluid Sci.* 2000;21(1-3):17-25.
- [14] Sand U, Sandberg J, Larfeldt J, Bel Fdhila R. Numerical prediction of the transport and pyrolysis in the interior and surrounding of dry and wet wood log. *Appl Energ.* 2008;85(12):1208-24.
- [15] Porteiro J, Patiño D, Collazo J, Granada E, Moran J, Miguez JL. Experimental analysis of ignition front propagation of several biomass fuels in a fixed-bed combustor. *Fuel.* 2010;89(1):26-35.
- [16] Zhou H, Jensen AD, Glarborg P, Jensen PA, Kavalaukas A. Numerical modeling of straw combustion in a fixed bed. *Fuel.* 2005;84(4):389-03.
- [17] Zhao W, Li Z, Zhao G, Zhang F, Zhu Q. Effect of air preheating and fuel moisture on combustion characteristics of corn straw in a fixed bed. *Energ Convers Manage.* 2008;49(12):3560-5.
- [18] Liang L, Sun R, Fei J, Wu S, Liu X, Dai K, et al. Experimental study of effects of moisture content on combustion characteristics of simulated municipal solid waste in a fixed bed. *Bioresource Technol.* 2008;99(15):7238-46.
- [19] Soler JP, Gómez FH. Determinación de los parámetros de diseño y operación de cámaras de combustión tipo Ward-Cimpa en hornillas paneleras, (proyecto de grado). Bucaramanga: Universidad industrial de Santander; 2004.
- [20] Bennamoun L, Belhamri A. Mathematical description of heat and mass transfer during deep bed drying: Effect of product shrinkage on bed porosity. *Appl Therm Eng.* 2008;28(17-18):2236-44.
- [21] Lerman P, Wennberg O. Experimental method for designing a biomass bed dryer. *Biomass Bioenerg.* 2011;35(1):31-9.
- [22] Wang ZH, Chen G. Heat and mass transfer in batch fluidized-bed drying of porous particles. *Chem Eng Sci.* 2000;55(10):1857-69.
- [23] Ramajo-Escalera B, Espina A, García JR, Sosa-Arnao JH, Nebra SA. Model-free Kinetics applied to sugarcane bagasse combustion. *Thermochim Acta.* 2006;448(2):111-6.
- [24] Katyal S, Thambimuthu K, Valix M. Carbonisation of bagasse in a fixed bed reactor: influence of process variables on char yield and characteristics. *Renew Energ.* 2003;28(5):713-25.
- [25] Asadullah M, Rahman MA, Ali MM, Rahman MS, Motin MA, Sultan MB et al. Production

- of bio-oil from fixed bed pyrolysis of bagasse. Fuel. 2007;86(16):2514-20.
- [26] Zabaniotou A, Damartzis Th. Modeling the intra-particle transport phenomena and chemical reactions of olive kernel fast pyrolysis. J Anal Appl Pyrol. 2007;80(1):187-94.
- [27] Di Blasi C. Modeling chemical and physical processes of wood and biomass pyrolysis. Prog Energ Combust. 2008;34(1):47-90.
- [28] Frigerio S, Thunman H, Leckner B, Hermansson S. Estimation of gas phase mixing in packed bed. Combust Flame. 2008;153(1-2):137-48.
- [29] Daood SS, Munir S, Nimmo W, Gibbs BM. Char oxidation study of sugar cane bagasse, cotton stalk and Pakistani coal under 1% and 3% oxygen concentrations. Biomass Bioenerg. 2010;34(3):263-71.
- [30] Basu P. Combustion of coal in circulating fluidized-bed boilers: a review. Chem Eng Sci. 1999;54(22):5547-57.
- [31] Kausley SB, Pandit AB. Modelling of solid fuel stoves. Fuel. 2010;89(3):782-91.
- [32] Johansson R, Thunman H, Leckner B. Influence of intraparticle gradients in modeling of fixed bed combustion. Combust Flame. 2007;149(1-2):49-62.
- [33] Bryden MK, Ragland KW. Numerical modeling of a deep, fixed bed combustion. Energ Fuel. 1996;10(2):269-75.
- [34] Thunman H, Leckner B. Influence of size and density of fuel on combustion in a packed bed. P Combust Inst. 2005;30(2):2939-46.
- [35] Khor A, Ryu C, Yang Y, Sharifi VN, Swiethenbank J. Straw combustion in a fixed bed combustor. Fuel. 2007;86(1-2):152-60.
- [36] Lu H, Ip E, Scott J, Foster P, Vickers M, Baxter L. Effects of particle shape and size on devolatilization of biomass particle. Fuel. 2010;89(5):1156-68.
- [37] Yang YB, Ryu C, Goodfellow J, Sharifi VN, Swiethenbank J. Modeling waste combustion in a grate furnaces. Process Saf Environ. 2004;82(B3):208-22.
- [38] Rohsenow WM, Hartnett JP, Cho YI. Handbook of heat transfer. 3rd Ed. United States of America: McGraw Hill; 1998.
- [39] He R, Suda T, Fujimori T, Sato Jun'ichi. Effects of particle sizes on transport phenomena in single char combustion. Int J Heat Mass Tran. 2003;46(19):3619-27.
- [40] Razuan R, Chen Q, Zhang X, Sharifi V, Swiethenbank J. Pyrolysis and combustion of oil palm stone and palm kernel cake in fixed-bed reactors. Bioresource Technol. 2010;101(12):4622-9.