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Biofuels and energy

Based on the researches of the authors, this presentation mainly covers (a) biomass gasification, (b) microwave-assisted pyrolysis of biomass, and (c) exergy of biomass. For biomass gasification, air gasification of biomass in autothermal gasifiers and entrained flow gasifiers will be detailed and assessed. For microwave-assisted pyrolysis of biomass, the processes and products of microwave-assisted pyrolysis of biomass with and without microwave absorbent will be covered and compared. Microwave-

assisted fast pyrolysis and microwave-assisted catalytic fast pyrolysis will also be introduced, experimental results from microwave-assisted co-pyrolysis of biomass and coal will also be presented. For exergy of biomass, the definition and models for exergy of fuel will be introduced, the exergy characteristics of several typical biomass fuels (woody biomass, rice husk, etc.) will be detailed, and new equations developed by ourselves will also be presented.

Biography

Yanning Zhang is an Associate Professor at the School of Energy Science and Engineering, Harbin Institute of Technology (HIT), Harbin, China. He worked as a visiting scholar at Dalhousie University, Canada, from October 2011 to December 2012, and then he completed his PhD at Harbin Institute of Technology (HIT) in 2013. Then he continued postdoctoral studies at Dalhousie University and University of Minnesota Twin Cities. He is guest editors for Journal of Energy Resources Technology (2017) and Thermal science (2017), and he is also an editorial board member of Journal of Fundamentals of Renewable Energy and Applications. He has published 4 book chapters and more than 70 journal papers.

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