Special Issue

Research of Pyrolysis and Conversion of Materials and Thermodynamic Characteristics

Message from the Guest Editors

Due to reduction in wood resources and environmental protection thermochemical conversion of biomass waste, and agriculture residues is becoming an increasingly important issue. For this reason, biomass and agriculture waste, have become the subject of analyzes in terms of biochar production. The whole field of different biogenic residues engineering is underpinned by thermochemical conversion and more precisely, the pyrolysis process. The most important task is to select the appropriate biomass waste and analyze it in terms of physical and chemical properties, and to determine the properties of the resulting process products. A thorough analysis of solid products can provide space for their use in construction, agriculture, soil improvement or the production of barbecue charcoal. The analysis of the liquid fraction is the basis for obtaining bio-oil, and the gas fraction for obtaining high-caloric gases for the production of heat and electricity. An important scientific aspect is also the thermodynamic analysis, which allows to determine the dynamics of the process, the rate of heating of the bed and fuel particles, the time scales of the pyrolysis process and chemical reactions.

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Deadline for manuscript submissions

closed (10 March 2024)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/153902

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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