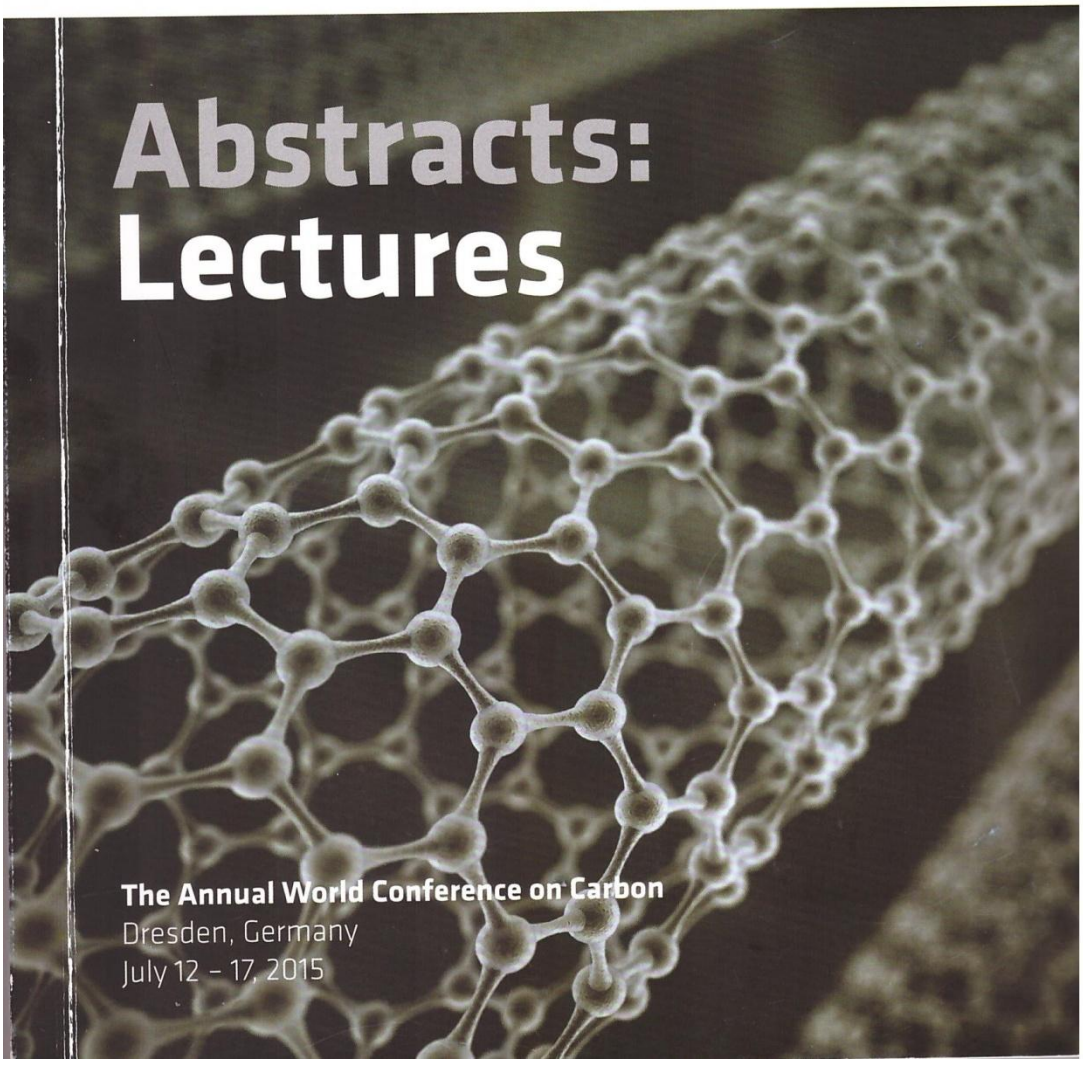
CARBON 2015

INNOVATION WITH CARBON MATERIALS



CARBON 2015

INNOVATION WITH CARBON MATERIALS

Abstracts: Lectures

The Annual World Conference on Carbon
Dresden, Germany
July 12 – 17, 2015

Carbon Materials for Energy Storage

Obtaining hydrophobic soot with iron nanoparticles

NAZHIPKYZY, Meruyert; LESBAYEV, Bakhytzhan; PRIKHODKO, Nikolay; BAKKARA, Ayagoz; MANSUROV, Zulhair

Institute of Combustion Problems

Presenter
Dr
Nazhipkyzy, Meruyert
meruert82@mail.ru

Organization/Company
Institute of Combustion Problems
Institute of Combustion Problems

Bogenbay Batyr St.,172
050012 Almaty
Kazakhstan

Subject
Carbon Fibers and Composites

Keywords
hydrophobic soot, iron nanoparticles, synthesis

Reference key
CF35

One of the most important areas of synthesis of new materials is obtain nanoparticles with desired physical, chemical and structural parameters to create on their base of functional materials. When you create any nano-objects, there are difficulties associated with their high chemical activity and a tendency to aggregate. To prevent of process of aggregation and protect from oxidizing environments, the nanoparticles can be synthesized in a shell of inert material. In this paper we present a study on the production of soot containing iron nanoparticles. The distinguishing feature of this soot is that iron nanoparticles enveloped nanoscale carbon layer, which prevents them from aggregated and oxidized in air. By developed method can be obtained not only soot nanoparticles of iron, but of other metals. The obtaining soot may find application in the power consuming materials and highly effective electrodes.
The essence of our method consists in saturating of soot with metal salts, and subsequent activation its by thermal influence in an inert medium, that leads to the recovery nanoparticles of metal at the expense of sooting carbon.