

Nanoparticles aggregated in the fuel.

Gustavo H. F. Pereira¹, and Antonio M. J. C. Neto^{1,2}.

¹Laboratório de Preparação e Computação de Nanomateriais, Universidade Federal do Pará, Belém, Pará, Brasil

²Instituto de Ciências Exatas e Naturais, Universidade Federal do Pará, Belém, Pará, Brasil

ABSTRACT

This work is about nanotechnology in the study on nano-substances aggregated in fuels acting as an additive used as improving agents and catalysts for combustion and performance, adding about 5 to 20 parts per million in gasoline. The nanoparticles generally used in this process with the fuel are Aluminum, Boron, Iron, Cerium Oxide and Copper. We used semi-empirical computational methods in order to analyze the percentage fractions of chemical energy released in the combustion reaction in order to know the efficiency of other methods to simulate gas-phase nanoparticles, as occurs in the combustion chamber with the fuel through this methodology.

Keywords: nanotechnology, additive, computational methods, nanofuels.