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Technology for Utilizing Biomass Waste Around the Reactor for Making Reduced Graphene Oxide Material

Abstract - This study highlights the presence of unnoticed waste that is not directly exposed to radiation. The proper management of biomass waste in the vicinity of radiation sites is a crucial responsibility of radiation workers. This study explores the feasibility of converting waste into reduced graphene oxide (rGO) through the utilization of appropriate technology at a temperature of 30,000℃. This study focuses on the implementation of Arc Plasma Sintering (APS) technology for sintering processes. APS utilizes plasma generated by ionization of argon gas between the anode and cathode with an impulse current, resulting in temperatures exceeding 3000 degrees C. This study examines the advantages of utilizing argon gas in industrial processes, particularly in providing thermal protection for materials. This study investigates the impact of air influences on the workpiece during the use of APS and explores potential measures to mitigate such effects. This study proposes a novel tool as a potential alternative for the production of low energy consumption alloy materials with a quick turnaround time. This study outlines the multi-stage process for obtaining rGO material from biomass waste in the vicinity of a reactor. This study outlines a comprehensive methodology for the fabrication of sintered materials. The process involves several stages including tool and material collection, sampling, preparation, sintering, and washing. The study provides a detailed description of each stage, highlighting the key considerations and techniques involved. The methodology presented in this study can be used as a guide for researchers and practitioners in the field of materials science. This research paper presents the technology utilized for the treatment of biomass waste in the Reactor G.A. Siwabessy region.

Keywords - Arc Plasma Sintering, Biomass waste, reduced Graphene Oxide, Technology

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