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Characterization of high purity Silicon derived from Rice husk through improved Leaching process[1] GBADEBO YUSUF, Osun State Polytechnic - Iree, AYODEJI AWODUGBA, Ladoke Akintola University of Technology, Ogbomoso, Nigeria, ADEPOJU RAIMI, BABATUNDE BABATOLA, Osun State Polytechnic - Iree — Rice husk is an abundant source of silicon and silicon compounds. High purity Silicon are required in high technology products such as semiconductors and solar cell. In this work, the possibility of obtaining pure silicon compounds through leaching process was investigated. Mesoporous silica nanoparticles with amorphous morphology have been synthesized from rice husk which was further subjected to improved leaching process to obtain pure silicon. XRD analysis shows the crystal structure of the as-received RHA with major reflections or peaks of crystalline quartz from ICSD powder diffraction occur at Bragg 2θ angles of 20.856°, 26.636° and 36.541°. The purity of silicon obtained in terms of silica content was improved by leaching in 10 wt% hydrochloric acid. Advance future works on characterizing the electrical properties of the refined Rice Husk will eventually add value to the Rice Husk Silicon product and make it more attractive not only to the Photovoltaic industry but also other industries that require high purity silicon at reasonable cost.

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