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Programme and the Book of Abstracts

TWENTY-FIRST YOUNG RESEARCHERS' CONFERENCE MATERIALS SCIENCE AND ENGINEERING

Belgrade, November 29 – December 1, 2023

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Hydrogen storage properties of MgH_2-Ni system

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The effect of pure Ni addition (5 wt.%) in MgH_2 powder was investigated mechanochemically for short milling times (15, 30, and 45 min). Obtained MgH_2-Ni system was characterized by XRD, SEM-EDS, PSD, DSC, and TPD. Compared to pure MgH_2, uniform distribution of nickel reduces the temperature of H_2 desorption by more than 100 °C. It is shown that influence of two important processes, grinding and catalysis, may be followed separately. We can conclude that the catalysis of H_2 desorption by Ni particles on MgH_2 matrix is the dominant effect for the investigated short milling times.