

**A study of Pr-Fe-B magnets produced by a low-cost powder  
method and the hydrogen decrepitation process**

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**ABSTRACT**

Sintered Pr-based magnets have been produced using a new laboratory technique for powder handling. Unlike conventional preparation of sintered permanent magnets in laboratory, the powder technique employed in this work does not require a glove box. The effects of processing parameters on the magnetic properties of Pr-based sintered magnets prepared using the hydrogen decrepitation process have been studied. In particular, the sintering temperature and the milling time for processing Pr<sub>16</sub>Fe<sub>76</sub>B<sub>8</sub> magnets have been investigated. Pr<sub>16</sub>Fe<sub>76</sub>B<sub>8</sub> magnets with best magnetic properties were sintered between 1015oC to 1075oC.

**Keywords:** *Pr-alloys; magnetic materials; hydrides; magnetic properties*

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