

Title (en)  
SAMARIUM-BASED RARE EARTH PERMANENT MAGNET MATERIAL, AND PREPARATION METHOD THEREFOR AND APPLICATION THEREOF

Title (de)  
SAMARIUM-BASIERTES SELTENERD-PERMANENTMAGNETMATERIAL UND HERSTELLUNGSVERFAHREN DAFÜR UND ANWENDUNG DAVON

Title (fr)  
MATÉRIAU D'AIMANT PERMANENT AUX TERRES RARES À BASE DE SAMARIUM, SON PROCÉDÉ DE PRÉPARATION ET SON APPLICATION

Publication  
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Application  
**EP 23826088 A 20230530**

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Abstract (en)  
Disclosed in the present invention are a samarium-based rare earth permanent magnet material, and a preparation method therefor and an application thereof. In the samarium-based rare earth permanent magnet material  $\text{Sm}_{2\alpha}\text{Fe}_{\alpha}\text{Cu}_{\beta}\text{V}_{\gamma}\text{Mo}_{\delta}\text{N}_{\varepsilon}$ ,  $11.5 \leq \alpha \leq 17.5$ ,  $0.1 \leq \beta \leq 0.4$ ,  $1.0 \leq \gamma \leq 1.8$ ,  $0 \leq \delta \leq 1.0$ , and  $2.9 \leq \varepsilon \leq 4.0$ . According to the samarium-based rare earth permanent magnet material provided by the present application, a good balance of the remanence and the coercivity is promoted by doping with vanadium, copper, and molybdenum and adjusting to an appropriate atomic ratio range, such that the samarium-based rare earth permanent magnet material has excellent comprehensive magnetic performance. The preparation method provided by the present application is simple to operate, low in cost, and suitable for the fields of small and special motors, magnetic sensors, or audio equipment.

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