



Fig.4 X-ray patterns of  $Nd(Fe,Mo)_{12}$  and its nitride  
 (a) host compound (b) nitrogenated at 450 °C for 2 h  
 (c) nitrogenated at 700 °C for 2 h



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## Intelligent Control of Multi-fingered Robot Hand

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**ABSTRACT** The dynamics properties of a kind of multi-fingered robot hand is analyzed. It is pointed out that the dynamics property of this kind of multi-fingered robot hand in the approaching process is quite different from that in the grasping process and, different control algorithm should be taken in the two process. A position-force hybrid control algorithm is proposed which is applied to the control system of the University of Science and Technology Beijing double-thumb robot hand successfully.

**Key words:** multi-fingered robot hand;  
 control system; position-force hybrid control

for the compound into NdN and  $\alpha$ -Fe as shown in Fig. 4.

## 3 Conclusion

The nitrogeation reaction consists of two stage. In the first stage of nitrogeation the apparent active energy  $E_f$  is 18.2 kJ/mol in which chemical reaction is the control step, and in the second stage of nitrogeation the apparent active energy  $E_s$  is 64.6 kJ/mol in which diffusion is the control step.

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## Behavior of Inclusions in Steel 16MnR

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**ABSTRACT** The regularity of the development of inclusions and the cleanliness level of the steel 16MnR during the whole process are investigated. The emphasis is focused on the type, quantity, distribution, sources and formation of the large oxide inclusions in ingot. The result shows that the major inclusions in ingot are block  $Al_2O_3$ . The large oxide inclusions mainly come from entrapment of complex slags.

**Key words:** 16MnR; ingot; inclusion; cleanness