

a. Highlights in 2007

- 1) Establishing design concept for high performance thermoelectric intermetallic semiconductors based on alloy substitution and dopings based on half-Heustler TiNiSn.
- 2) Enhancement on high temperature creep properties of 9 Cr steels by optimizing morphology of fine carbo-nitride precipitates.
- 3) TEM analysis on the microstructure evolution during recrystallization of cold worked steels.

b. Articles (original article, comment/book)

- 1) Sung-Wng Kim, Yoshisato Kimura and Yoshinao Mishima; High temperature thermoelectric properties of TiNiSn-based half-Heusler compounds; *Intermetallics*, 15 (2007) 349-356
- 2) M. Yoshino, Y. Mishima, Y. Toda, H. Kushima, K. Sawada and K. Kimura: Effect of Ausageing on the precipitation Behavior of MX Carbonitride in Modified 9Cr-1Mo Steel; *Materials Science Forum*, 539-543 (2007), 2976-2981
- 3) Andrey Belyakov, Kaneaki Tsuzaki, Yuuji Kimura, Yoshisato Kimura, Yoshinao Mishima: Comparative study on microstructure evolution upon unidirectional and multidirectional cold working in an Fe-15%Cr ferritic alloy; *Materials Science and Engineering A*, 456(2007) 323-331
- 4) A. Belyakov, F. G. Wei, K. Tsuzaki, Y. Kimura, Y. Mishima: Incomplete recrystallization in cold worked steel containing TiC; *Materials Science and Engineering A*, 471(2007) 50-56
- 5) Y.Mishima, N.Yoshida, H.Kawamura, K.Ishida, Y.Hatano, T.Shibayama, K.Munakata, Y.Sato, M.Uchida, K.Tsuchiya and S.Tanaka: "Recent Results on Beryllium and Beryllides in Japan", *J.Nuclear Matr.*, 367-370(2007), 1382-1386