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1. Main Research Results

- 1) Precipitation behavior of intermetallic compounds in high Cr heat resistant steels
- 2) Establishment of design criteria of high performance thermo-electric materials based on Half-Heustler TiNiSn through ternary substitutions and quaternary additions

2. List of publication (original article, comment/book)

Original Paper

- 1) S.Miura, Y.Murasato, Y.Sekito, Y.Tsutsumi, K.Ohkubo, Y.Kimura, Y. Mishima, T.Mohri: “Effect of Microstructure on the High-Temperature Deformation Behavior of Nb-Si Alloys”; Material Science and Engineering A, 510-511(2009) 317-321
- 2) Y.Kimura, H.Ueno, Y. Mishima: Thermoelectric Properties of Directionally Solidified Half-Heusler (M0.5a, M0.5b)NiSn (Ma, Mb = Hf, Zr, Ti) alloys: J. Electronic Materials, 38(2009), 934-939
- 3) K.Handa, Y.Kimura, Y. Mishima: Ferrite and Spheroidized Cementite Ultrafine Microstructure Formation in an Fe-0.67 Pct C Steel for Railway Wheels under Simulated Service Conditions: Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 40(2009), 2901-2908.
- 4) K.Handa, Y.Kimura, Y. Mishima: Surface Cracks Initiation on Carbon Steels Railway Wheels under Concurrent Load of Continuous Rolling Contact and Cyclic Frictional Heat, Wear, 268(2010)50-58.