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Record 1 of 1**Author(s):** Leitner, H; Clemens, H; Horing, S; Wanderka, N; Banhart, J; Staron, P; Jammig, B**Title:** Characterisation of precipitates in a stainless maraging steel by three-dimensional atom probe and small-angle neutron scattering**Source:** ZEITSCHRIFT FUR METALLKUNDE, 95 (7): 644-649 JUL 2004**Language:** English**Document Type:** Article**Author Keywords:** maraging steel; precipitation; small-angle neutron scattering; three-dimensional atom probe**KeyWords Plus:** HARD-SPHERE INTERACTIONS; BEHAVIOR**Abstract:** Two complementary techniques, namely three-dimensional atom probe and small-angle neutron scattering, were employed to study precipitation phenomena in a stainless maraging steel (Fe-12.3%Cr-8.9%Ni-0.6%Si-1%Mo-0.6%Al-0.8%Ti, wt.%) during ageing at 475 degreesC. Atom probe investigations revealed the precipitation of a single Ni-rich phase exhibiting an average particle diameter of 2.5 nm after 12 h. After ageing for 100 h these precipitates had grown to an average size of 4 nm. In addition, needle- or plate-like Ni-rich precipitates larger than 15 nm were present. Their compositions differ mainly in the amount of Fe, Ni and Ti. Furthermore, Cr-rich precipitates were observed. The size ranges and the number densities of the precipitates match well with those observed by small-angle neutron scattering.**Addresses:** Univ Leoben, Dept Phys Met & Mat Testing, Leoben, Austria; Hahn Meitner Inst Berlin GmbH, Berlin, Germany; GKSS Forschungszentrum Geesthacht GmbH, Mat Res Inst, Geesthacht, Germany; Mat Ctr Leoben, Leoben, Austria**Reprint Address:** Leitner, H, Montan Univ Leoben, Dept Metallkunde & Werkstoffprufung, Franz-Josef-Str 18, A-8700 Leoben, Austria.**E-mail Address:** harald.leitner@unileoben.ac.at**Cited Reference Count:** 12**Times Cited:** 5**Publisher:** CARL HANSER VERLAG**Publisher Address:** KOLBERGERSTRASSE 22, POSTFACH 86 04 20, D-81679 MUNICH, GERMANY**ISSN:** 0044-3093**29-char Source Abbrev.:** Z METALLK**ISO Source Abbrev.:** Z. Metallk.**Source Item Page Count:** 6**Subject Category:** Metallurgy & Metallurgical Engineering**ISI Document Delivery No.:** 844YO[Back to Results](#)ISI Web of Knowledge
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