

论文

金属Co超细粉的 γ 射线辐照制备

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摘要: 采用 γ 射线辐照可溶性Co盐溶液可制备金属Co超细微粒及其相应粉体.X射线衍射、电子衍射及相应的TEM形貌分析表明,金属粒子呈现各向异性生长的结晶体,当用醋酸Co作为出发原料,被辐照溶液浓度在0.005—0.2mol / L的范围内,辐照剂量和pH分别在 2.3×10^4 - 3.9×10^5 Gy和6.0-10.0时,超细粒子的平均粒径一般都在30nm左右.

关键词: 金属Co超细粉 γ 射线辐照 微波辐照

PREPARATION OF NANOCRYSTALLINE METALLIC α -Co BY γ -RAY RADIATION

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Abstract: Ultrafine particles and powders of metallic α -Co were prepared in an aqueous solution of Co^{2+} by γ -ray radiation. The ultrafines appear as nanocrystallined particles according to X-ray and electron diffraction. The average size of particles is 30 nm while concentration of cobalt acetate solution, irradiation dose and solution pH are in the range of 0.005-0.2 mol / L, 2.3×10^4 - 3.9×10^5 Gy and 6.0-10.0 respectively.

Keywords: α -Co ultrafine particle γ -ray radiation microwave radiation

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