

MMG Publications

Papers:

Recycling 

Recycling of rare earths: a critical review
Binnemans K, Jones PT, Blanpain B, Van Gerven T, Yang YX, Walton A, et al.
Journal of Cleaner Production 2013;51:1-22

Multiple recycling of NdFeB-type sintered magnets
Zakotnik M, Harris IR, Williams AJ
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Possible methods of recycling NdFeB-type sintered magnets using the HD/degassing process
Zakotnik M, Harris IR, Williams AJ
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Hydrogen decrepitation and recycling of NdFeB-type sintered magnets
Zakotnik M, Devlin E, Harris IR, Williams AJ
Journal of Iron and Steel Research International 2006;13:289-95.

REFeB 

Optimisation of the processing of Nd-Fe-B with dysprosium addition
Yan GL, McGuinness PJ, Farr JPG, Harris IR
Journal of Alloys and Compounds 2010;491:L20-L4

The effects of annealing at 1000 degrees C for 24 h on the extrinsic properties of Pr-Fe-B and Nd-Fe-B-type sintered magnets
Corfield MR, Harris IR, Williams AJ
Journal of Magnetism and Magnetic Materials 2010;322:36-45

Improvement of microstructure and magnetic properties of Nd-Fe-B alloys by Nb and Co additions
Ahmed FM, Harris IR
Journal of Magnetism and Magnetic Materials 2008;320:2808-13

A study of the thermal demagnetisation behaviour of Nd-Fe-B sintered magnets by a magnetic field mapping system
Williams AJ, Walls R, Davies BE, Marchese J, Harris IR
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A comparative study of the sintering behaviour of NdFeB and PrFeB for permanent magnet applications
Taylor MG, Davies BE, Harris IR
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Magnetic alignment and crystallographic texture relationships in permanent NdFeB magnets
Lillywhite SJ, Williams AJ, Harris IR
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Lillywhite SJ, Williams AJ, Davies BE, Harris IR
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Lillywhite SJ, Burns VSJ, Harris IR
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The character and role of grain boundaries in NdFeB-type alloys and magnets
Harris IR, Williams AJ
Zeitschrift fur Metallkunde 2002;93:983-90

The effects of annealing at 1000°C for 24 hours on the extrinsic properties of Pr-Fe-B and Nd-Fe-B-type sintered magnets
Corfield MR, Williams AJ, Harris IR
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The magnetic properties and microstructure of hot pressed Pr-based HDDR magnets
Cannesan N, Williams AJ, Harris IR, Gutfleisch O, Le Breton JM
Proceedings of 17th International Workshop on Rare Earth Permanent Magnets & Their Applications, 2002, 675-684

The effects of blending additions of copper and cobalt to Nd₁₆Fe₇₆B₈ milled powder to produce sintered magnets
Mottram RS, Williams AJ, Harris IR
Journal of Magnetism and Magnetic Materials 2001;234:80-9

The use of metal hydride powder blending in the production of NdFeB-type magnets
Mottram RS, Davis B, Yartys VA, Harris IR
International Journal of Hydrogen Energy 2001;26:441-8

Defect formation in Nd₂Fe₁₄B grains caused by Zn diffusion
Hu Y, Harris IR, Aindow M, Jones IP
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Davies BE, Mottram RS, Harris IR
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Ahmad A, Mottram R, Harris IR
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Blending additions of aluminium and cobalt to Nd₁₆Fe₇₆B₈ milled powder to produce sintered magnets
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The influence of alloying additions and process parameters on the magnetic properties of PrFeB-based bonded magnets
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Corfield MR, Williams AJ, Harris IR
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Magnetic properties of polymer bonded exchange-spring NdFeB magnets
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Li Y, Aindow M, Evans HE, Harris IR
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A Mossbauer investigation of the homogenisation of Nd_{11.8}Fe_{82.3-x}Nb_xB alloys
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Ragg OM, Harris IR
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Crystallographic and magnetic alignment in hot-rolled Pr₂₀Fe₇₄B₄Cu₂ alloys
Leonowicz M, McGuinness PJ, Hatch GP, Davies HA, Harris IR
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Horton JA, Heatherly L, Sellers CH, Branagan DJ, Ragg O, Harris IR
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Proceedings of 14th International Workshop on Rare Earth Permanent Magnets & Their Applications, 1996, A501-A510

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Zhang XJ, Yin XJ, McGuinness PJ, Harris IR
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Investigation of the homogenization behaviour of NdFeB alloys
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Journal of Alloys and Compounds 1995;224:135-9

The use of polytetrafluoroethylene in the production of high-density bonded Nd-Fe-B magnets
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Mycock GJ, Faria RNJ, Harris IR
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Knoch KG, Kianvash A, Harris IR

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Magnetic-properties of the sintered magnets produced from a Nd-Fe-B-Cu-type material

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A study of the microstructures and the effects of coating on Nd₂Fe₁₄B alloys

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Resistivity measurements on hydrogenation disproportionation desorption recombination phenomena in Nd-Fe-B alloys with Co, Ga and Zr additions

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Thesis:

PhD



The processing and characterisation of recycled NdFeB based magnets

Adrwish SMA, 2013

Characterisation of the aqueous corrosion process in NdFeB melt spun ribbon and MQI bonded magnets

McCain S, 2012

Recycling rare earth transition metal permanent magnets

Zakotnik M, 2008

Processing of rare earth-iron based magnetostrictive materials

Bevan AI, 2007

The role of casting conditions and heat treatment on the permanent magnetic properties of selected Sm₂(Co, Fe, Cu, Zr)₁₇ and NdFeB-Type magnets

Kirby K, 2006

Effects of precursor ageing on the hydrothermal synthesis of strontium hexaferrite

He S, 2005

Search for new permanent magnetic phases by the reaction crucible analysis and developments of new high through put methods

Gross F, 2004

A study of near stoichiometric Nd-Fe-B alloys and magnets

Shaaban A, 2004

The oxidation behaviour of Co and Dy modified NdFeB magnets

Skulj I, 2004

The production and characterisation of anisotropic HDDR (Pr,Nd) FeB-based powders

Cannesan N, 2003

Production of sintered permanent magnets based on (Nd/Pr) Fe-B alloys

Corfield MR, 2003

Sintering characteristics of NdFeB permanent magnets produced by powder blending

Davies BE, 2003

A study of rare earth element substituted strontium hexaferrite produced by chemical co-precipitation and hydrothermal synthesis

Jianfeng W, 2003

Processing of rare earth/transition metal magnetic alloys & powders

Mann VSJ, 2003

Fabrication and characterisation of Nd-123 high-temperature superconducting thick films on yttria stabilized zirconia substrates

Moussa MAA, 2003

An investigation of sintered neodymium iron boron magnets with dysprosium additions

Yan G, 2003

Microstructural studies of Zn-coated NdFeB magnets

Hu Y, 2002

The oxidation of NdFeB alloys

Li Y, 2002

Phase transformations in the intermetallic compound ZrCu

Liu Z, 2002

Reaction crucible analysis and magnetic domain structures

Lüdtke A, 2002

An investigation of neodymium iron boron thin films produced by magnetron sputtering and pulsed laser ablation
Parry MA, 2002

Low pressure pack sublimation (LPPS) : a zinc coating process for NdFeB magnets
Walton A, 2002

Processing and characterisation of RE-Fe magnetostrictive alloys
Jiwei Xie, 2001

An investigation of the processing and properties of AB2 and AB5 alloys for hydrogen storage
Russell JS, 2001

The production and characterisation of PTFE-bonded NdFeB magnets
Mokal BS, 2000

The use of magnets in biomedical applications
Riley MA, 2000

The effect of substrate vicinal offset on the morphology, microstructure and physical properties of YBCO thin films
Vassiloyannis D, 2000

Preparation, microstructure and properties of nanostructured and anisotropic strontium ferrite
Yuan Z, 2000

A study on magnetic anisotropy induced in the HDDR process
Fujita A, 1999

Studies relating to the development of bulk anisotropy in Nd-Fe-B alloys, containing Zr and other additions, processed by the HDDR method
Guegan PW, 1999

Properties of sintered neodymium iron boron magnets produced by a powder blending process
Mottram RS, 1999

The investigation of the hydrogen storage properties of metal hydride electrode alloy surface modified with platinum group metals
Willey DB, 1999

Development of Coercivity in $\text{Sn}_2\text{Fe}_{17}\text{N}_3$
Dempsey N, 1998

Processing, characterisation and optimisation of gas treated M-type strontium hexaferrite
Seyyed Ebrahimi SA, 1998

Hydrogenation and nitrogenation behaviour of Sm-Fe based alloys for permanent magnets
Sinan SA, 1998

Production and characterisation of bonded and sintered magnets based on stoichiometric $\text{Nd}_2\text{Fe}_{14}\text{B}$
Clarke JC, 1997

The microstructural and hot deformation characteristics of Pr-Fe-B-Cu and (Pr, Nd)-Fe-B-Cu magnetic materials
Hatch GP, 1997

The effect of strain path change on recrystallization in copper
Lu Z, 1997

An investigation of magnetic thin films grown by organic chemical vapour deposition for possible magnetoresistive applications
Tilsley MEG, 1997

Production and characterisation of HDDR Nd-Fe-B powders based on material produced by the direct reduction process.
Burkhardt C, 1996

A study of the influence of Gallium additions to Nd-Fe-B alloys and production of anisotropic H.D.D.R. powders
Martinez N, 1996

A study of Cu-containing Nd-Fe-B magnets and the effect of heat treatments
Ragg OM, 1996

Production of anisotropic Nd-Fe-B type magnets, using the HDDR process
Short CL, 1996

The processing and properties of bonded Nd-Fe-B magnets
Tattam C, 1996

A study of the transformation kinetics and the mechanical behaviour of some alloys with the L12 structure
Abolghasem A, 1995

Effect of niobium on neodymium-iron-boron alloys and magnets
Ahmed FM, 1995

A study into the different stages of the Hydrogenation-Disproportionation-Desorption-Recombination (HDDR) process used in the production of Nd-Fe-B type permanent magnets
Book D, 1995

Production and characterisation of giant magnetostrictive RFe_2 (R=rare earth) materials and their hydrides by powder metallurgy routes
de Angulo LR, 1995

The examination and analysis of rare earth magnet alloys with the SEM
Edgley DS, 1995

Fundamental studies on hydrogenation disproportionation desorption and recombination (HDDR) processes in Nd-Fe-B-Type alloys
Gutfleisch O, 1995

The production of NdFeB permanent magnets
Wilson AF, 1995

Hydrogen absorption and desorption studies on NdFeB type alloys used for the production of permanent magnets
Williams AJ, 1994

The structures and properties of Pr/Nd-Fe-B-(Cu) permanent magnets and alloys
Faria RN, 1993

An investigation into antimony substituted manganese arsenide alloys
Forsyth HJ, 1993

An investigation of solid-state ageing of niobium-containing Nd-Fe-B magnets
Freeman RJ, 1993

Hydrogen in rare earth transition metal intermetallics: potential hydrogen storage systems and the use of hydrogen in processing
Manwaring CAF, 1993

An investigation into the preparation and processing of rare earth - iron magnetostrictive alloys
Hwang MHA, 1992

The study of hydrogen in $REFe_2$ (RE=Rare Earth) giant magnetostrictive laves phase compounds and its application to their powder metallurgical processing
Jones DGR, 1992

The correlation between microstructure and magnetic properties in Nd-Fe-B materials
Yin X, 1992

An investigation into the structure and magnetic properties of some transition metal-metalloid alloys
Devlin E, 1991

The high temperature magnetic properties of $YBa_2Cu_3O_{6+y}$ and $YBa_2(Cu_{1-x}Fe_x)_3O_{6+y}$
Twin AJ, 1991

A study of the coercivity behaviour of Nd₂Fe₁₄B-type alloys via gas processing (O₂ and H₂)
Zhang X-J, 1991

Production of Nd₂Fe₁₄B magnets by powder coating with soft metals and development of effective homogenisation, consolidation and coating procedures
Ahmad A, 1990

A study of the ageing characteristics of a 2-17 type permanent magnet material
Gencer F, 1990

A study of the microstructure and magnetic properties of a Sm(Co, Fe, Cu, Zr)_{7.1} alloy
Kwon H-W, 1990

The study of Nd Fe B hydrides and their application to the production of permanent magnets
J.McGuinness P, 1989

A study of rotary forged Nd-Fe-B permanent magnets
Rowlinson N, 1989

An investigation of the Laves phase pseudobinary system Cr (Fe_{1-x}Ni_x)₂
Shields TC, 1989

Magnetic and microstructural studies of Nd-Fe-B type alloys
Withey PA, 1989

Order-disorder solid state transformations and hydrogen solubility in a range of palladium-yttrium solid solution alloys
Doyle ML, 1989

An investigation of hydride precipitation in the systems Nb-H and Nb-5% M0-H
Drake A, 1989

Development of a new hydrogen storage compound
Lowe R, 1987

A study of the uses of some palladium-alloy membranes for use in hydrogen isotope separation
Wileman RCJ, 1987

An examination of the dependence of the hydrogen solubility upon the structure and constitution of some palladium-cerium solid solution alloys
Smith DA, 1985

Neutron polarisers: a study of SmCo₅
Wellwood JC, 1984

Metallography and magnetic properties of some samarium - transition metal 2: 17- type alloys
Kianvash A: 1983

A study of metal-hydrogen systems
S. Al-Ashab ST: 1982

Microstructure, hydrogenation and magnetic behaviour of SmCo₅
King CE, 1982

An investigation of shape memory effect and martensite transformation in Ni Ti
Lauder EH, 1980

An investigation of some rare earth Laves compounds
Brochado Oliveira IM da C, 1979

Structural and physical property studies of the titanium-aluminium and titanium-tin systems
Friedeberg MA, 1979

Thermodynamic, constitutional and related studies of alloys
Pountney JM, 1979

A study of the transformation kinetics and the mechanical behaviour of some alloys with the L12 structure
Brown GT, 1978

A transmission electron microscope study of nickel-aluminium alloys
Mukerjee D, 1978

Constitutional and magnetic properties of some rare earth-cobalt-aluminium alloys
Evans JM, 1977

The study of hydrogen in the system Zr (Co_{1-x} Ni_x)
Irvine SJC, 1977

Mössbauer and other studies of some tin solid solutions and intermetallic phases
Ridler TW, 1977

Solidification contraction in cast irons
Tafazzoli-Yazdi M, 1976

Thermodynamic, constitutional and related studies of alloys
Pratt JN, 1975

The structural and magnetic properties of some defect-type B2 phases
Fort D, 1973

The mechanical and physical properties of some palladium-alloy and palladium-alloy-hydrogen systems
Hirst JR, 1973

The scattering of Mössbauer gamma rays from a single crystal of paraelectric barium titanate excited by a radio frequency electric field
Kilner JA, 1973

The structure and constitution of some ZrCo and Zr-Co-Ni alloys
Hossain D, 1972

The diffusion of hydrogen through palladium-cerium alloys
Morris MA, 1972

An investigation of the lattice spacings and magnetic susceptibilities of some rare earth alloys
Speight JD, 1967

An investigation of the anomalous behaviour of cerium
Harris IR, 1963

Masters



Investigation into the interactions within the fibre/matrix interface of FeCo alloy metal matrix composites and the effects on magnetic properties
Degri MJJ, 2008

The magnetorheological effect of NdFeB particles and silicone rubber composites
Wang H, 2006

Development of mapping techniques for the imaging of thermal demagnetisation of permanent magnets
Hole JK, 2004

Novel processing techniques applied to terfenol-D based magnetostrictive materials
Bevan AI, 2002

Corrosion of stainless steel for the encapsulation of dental magnets
Kawaley G, 2002

Production and characterisation of high density PTFE bonded Pr-Fe-Co-B-M (M= Zr or Nb) anisotropic HDDR magnets
Cannesan N, 2000

The processing of permanent magnets and powders from rare earth/transition metal alloys
Burns VSJ, 1999

The corrosion behaviour of Nd-Fe-B and the Negative Harris effect
Yan G, 1999

Production and characterisation of sintered (Nd,Pr)-Fe-B permanent magnets
Chequer AD, 1998

The Processing and characterisation of permanent magnetic materials based on Re-Fe-B
Corfield MR, 1998

The microstructure and magnetic properties of some Pr-Fe-Cu-B alloys
Mycock GJ, 1996

The corrosion protection of Nd-Fe-B based permanent magnets
Mitchell P, 1993

A study of the precipitation behaviour of doped InP and GaAs single crystals
Smith NA, 1993

Alloy development in ferrous sintered components
Ahmed FM, 1990

Investigation of ternary alloys based on the $\text{Fe}_3\text{Ga}_{2-x}\text{As}_x$ system
Hill PJ, 1990

An investigation into polymer bonded magnets
Rice SA, 1990

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