
Double Exchange In Heusler Alloys And Related Materials 2007

electronic structure of novel magnetic systems: insights ... - exchange mechanism !half heusler based diluted magnetic semiconductors ... mediated by double exchange (mn 3+) (d 4) double exchange ! if the impurity band is partially occupied and the neighboring site has parallel spin (fm arrangement) then by the allowed hopping to the ne- **micromagnetic analysis of heusler alloy-based ...** - a perpendicular double barrier synthetic antiferromagnetic free layer mtj stack using micromagnetic simulations. for thematerialusedinfreelayers,weusetwodifferentcobalt-based heusler alloys and compare their performance on the basis of switching speed, thermal stability and tunnel magnetoresistance. we show that for heusler alloys **magnetic and electronic properties of double-perovskites ...** - ent are the double-perovskites (intermetallics versus ox-ides). in contrast to the heusler compounds the double-perovskites exhibit a larger range of physical properties: not only half-metallic magnets but also magnetic insula-tors and mott-hubbard insulators, for which our theo-retical approach is put to a severe test here. **roadmap for emerging materials for spintronic device ...** - 1 roadmap for emerging materials for spintronic device applications atsufumi hirohata,1 senior member, ieee, hiroaki sukegawa,2 hideto yanagihara,3 igor Žutić,4 takeshi seki,5 shigemi mizukami 6 and raja swaminathan 7 1 department of electronics, university of york, york yo10 5dd, uk 2 magnetic materials unit, national institute for materials science, tsukuba 305-0047, japan **observation of enhanced exchange bias behavior in nicomnsb ...** - observation of enhanced exchange bias behavior in nicomnsb heusler alloys . ajaya k. nayak1, k. g. suresh1and a. k. nigam2. 1magnetic materials laboratory, department of physics, indian institute ... **coexistence of reentrant-spin-glass and ferromagnetic ...** - a giant exchange bias field of up to 1170oe was observed in the mn 2ni 1.6sn 0.4 heusler alloy. a reentrant spin glass phase and a ferromagnetic martensitic phase coexist below the blocking temperature as confirmed by dc magnetization and ac susceptibility measurements. exchange bias in mn 2ni 1.6sn **exchange bias in bulk mn rich niâ mnâ sn heusler alloys** - exchange bias in bulk mn rich ni-mn-sn heusler alloys mahmud khan,a igor dubenko, shane stadler, and naushad ali department of physics, southern illinois university, carbondale, illinois 62901, usa **thermal strain and magnetization studies of the ...** - thermal strain and magnetization studies of the ferromagnetic heusler shape memory alloys ni2mnga and the effect of selective substitution in 3d elements on the structural and magnetic phase 81 magnetization measurements, the magnetic anisotropy constant ku can be calculated. the **exchange bias behavior in niâ mnâ sb heusler alloys** - heusler alloys. shifts in hysteresis loops of up to 248 oe were observed in the 5 t field cooled samples. the observed exchange bias behavior in ni 50mn 25+xsb 25-x is attributed to the coexistence of antiferromagnetic and ferromagnetic exchange interactions in the system. such behavior is an addition to the multifunctional properties of the ... **high-spin ground states via electron delocalization in ...** - of double exchange has been applied predominantly in the context of extended solids such as heusler alloys24, but in 1983 it was also introduced to molecular chemistry25,26. despite a number mniii o2- mniv figure 1 | double-exchange mechanism in mixed-valence manganites. two electrons are transferred simultaneously, one from a bridging o 22 ... **research article open access half-metallic double ...** - heusler alloy compounds as in (co 2 cr 1-x fe x al),19,20 as well as in the group of double perovskites.9,12,13 double perovskites are of special attention, since within this group half-metals with above room-temperature (rt) are found, such as in (ca 2 femoo 6), (sr 2 femoo 6), (ba 2 femoo 6),21,22 and in (sr 2 crmoo 6).21,23 the ordered ... **download dear santa love rachel rosenstein pdf** - analysis of time series chatfield solution manual, double exchange in heusler alloys and related materials 2007, jcb js115 auto tier III js130 auto tier III js145 auto tier III tracked excavator service repair manual download, preventing the future, acls study guide 5e, nikon d7000 user **synthesis and characterization of nimnga ferromagnetic ...** - synthesis and characterization of nimnga ferromagnetic shape memory alloy thin films. (august 2010) nishitha jetta, b.e., osmania university chair of advisory committee: dr. xinghang zhang ni-mn-ga is a ferromagnetic shape memory alloy that can be used for future sensors and actuators. it has been shown that magnetic field can induce phase **discovery of magnetic anti -skyrmions in tetragonal ...** - heusler material (mn 1.4pt 0.9pd 0.1sn) by direct imaging with lorentz transmission electron microscopy (Item) using an fei titan g2 80-300 and double-tilt stages variable temperature capabilitieswith (100- 400 k and 10300 k). in the lorentz mode we - have the capability of nearly magnetic field free tem imaging. **thermal environments of an office building with double ...** - tance to heat exchange, contributes to large heating and cooling loads (russell, 1996). increased energy demands mean more harmful greenhouse gas emissions and more negative impacts on the environment (dorf, 2001). double skin facade (dsf) is a solution for the growing trends **Ψk scientific highlight of the month - psi-k** - Ψk scientific highlight of the month no. 127 april 2015 theory of heusler and full-heusler compounds iosif galanakis* department of materials science, school of natural sciences, university of patras, gr-26504 patra, **niobium doped zrco sn heusler compound** - 2sn heusler compounds. our results confirm the previ-ously reported [1] existence of weyl nodes above the fermi level in the majority spin channel along the [110] direction, using the gga+u approximation to the exchange correlation potential of the density functional theory (dft) [11-13]. we show that doping zrco

investigation of binary Co_x ($x = In, Si, Sb, Sn, Ga$) half ... - from the heusler family of alloys, other compounds that have shown half-metallicity include Co_2 [16], Fe_3O_4 [17], oxide perovskites [18], and double perovskites [19]. in the case of the ternary (xyz) half-heusler alloys, formation of half-metallicity is easily induced when x is a high valence 3-d atom and y a low valence 3-d atom [4]. **time-reversal-breaking weyl fermions in magnetic heusler ...** - time-reversal-breaking weyl fermions in magnetic heusler alloys ... which has been double-checked with the modified becke-johnson exchange potential [34]. this suggests a good half-metallic property, which is consistent with the experimental investigation of the spin- **half-metallic co-based quaternary heusler alloys for ...** - physical review b 94, 184102 (2016) half-metallic co-based quaternary heusler alloys for spintronics: defect- and pressure-induced transitions and properties enamullah, 1,* d. d. johnson, 2 3 † k. g. suresh, and aftab alam, ‡ 1 department of physics, indian institute of technology bombay, powai, mumbai 400 076, india 2 division of materials science & engineering, ames laboratory, ames, iowa ... **3He spin filters for a thermal neutron triple axis spectrometer** - on the ill in20 thermal tas, a pg monochromator in conjunction with a 3He polarizer outperformed a heusler crystal monochromator for wavelengths below 0.18nm, despite a relatively low 3He polarization of 48% [7]. during the last several years, the achievable 3He polarization has been significantly improved for both the spin-exchange optical **author's personal copy - www-oldi-halleg** - heusler alloy curie temperature transversal and longitudinal fluctuations abstract the origin of the half-metallicity is different in diluted magnetic semiconductors and heusler alloys. i briefly review our earlier work on $(GaN)_xAs$ and $(GaN)_n$ focusing on the relation between the half-metallicity and the strength of the interatomic exchange ... **first principles study of Fe based full heusler alloy** - first principles study of Fe based full heusler alloy k seema, mandeep kaur and ranjan kumar department of physics, panjab university, Chandigarh-160014, india. abstract the electronic structure of Fe-based quaternary heusler compounds Fe_2CoZ ($Z=Ga, Ge$) is calculated by first-principles density functional theory. **doped ZrCoSn heusler compound - rrpfim** - 2Sn heusler compounds. our results confirm the previously reported [1] existence of weyl nodes above the Fermi level in the majority spin channel along the [110] direction, using the $GGA+U$ approximation to the exchange correlation potential of the density functional theory (DFT) [11-13]. we show that doping ZrCo **dilute magnetic semiconductors - pdfsmanticscholar** - former class the interaction is dominated by Zener's p-d exchange being relatively weak, but longer ranged, while in the latter one Zener's double exchange prevails, being strong but short ranged. both have important consequences for the Curie temperatures. 2 ab-initio calculations for dilute magnetic semiconductors **magnetically frustrated double perovskites: synthesis ...** - heusler alloys x_2yz where the interaction between two mag- ... driven by a double-exchange-like electron delocalization mechanism, which occurs if the difference in orbital energies **rrree tt hh - eastern mediterranean university** - arly/academic forum for the analysis, development, exchange and critique of ideas on these matters. the journal is bilingual, publishing material in English and/or Turkish, and is indexed in ... alloys and related materials," in double exchange in heusler alloys and related materials 2007, k. Baerner, ed., pp. 115- **investigation of electronic properties of Ni_2MnGa and ...** - we have used the generalized gradient approximation for the exchange-correlation potential of the density functional theory (DFT) as it is described by Becke's three-parameter ... contracted "double-zeta" [$2s2p2d$] basis set is obtained by leaving the outermost ... investigation of electronic properties of Ni_2MnGa and Co_2MnGa heusler ... **density functional study of elastic and vibrational ...** - density functional study of elastic and vibrational properties of the heusler-type alloys Fe_2VAl and Fe_2VGe v. Kanchana, 1,* g. Vaitheeswaran, 1,2 Yanming Ma, 3 Yu Xie, 3 A. Svane, 4 and O. Eriksson 5 1 applied materials physics, department of materials science and engineering, Royal Institute of Technology, Brinellvägen 23, 100 44 Stockholm, Sweden 2 advanced centre of research in high energy ... ([fkdqjhlqwhudfwrqvdqg&xulhwhpshudwxuhvri 0q &r=frpsrxqgv - calculations of the semi-heusler compound $NiMnSb$ [12]. since then, many more systems were characterized as half-metallic by band structure theory, in particular from the class of heusler compounds. heusler compounds have the general chemical formula x_2yz , where x and y are transition metals, and z is a main group III, IV, or V element and ... **final report for aoad grant 104094, study of ...** - heusler alloys, a magnetic refrigeration system was constructed and novel thermal ... the magnetic field by the use of the double magnetocaloric system. a room temperature ... exchange for the hot heat circuit when magnetic refrigeration substance (MRS) is placed in ... **x-ray photoelectron spectroscopy (XPS) and magnetism** - x-ray photoelectron spectroscopy (XPS) and magnetism • p art i introduction experimental ... - exchange interaction of the core hole with valence band - total DOS by XPS (and partial DOS by XES) ... (CMR compounds: manganites, double perovskites) heusler-alloys **effect of Fe substitution on the magnetic properties of ...** - effect of Fe substitution on the magnetic properties of half-heusler alloy $CoCrAl$ Hongzhi Luo, a, b, Heyan Liu, a, Xiao Yua, Yangxian Lia, Wei Zhub, Guangheng Wub, Xiaoxi Zhuc, Chengbao Jiangc, Huibin Xuc a school of material science and engineering, Hebei University of Technology, Tianjin 300130, PR China b Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese ... **polarized inelastic neutron scattering (PINS) workshop and ...** - mode (thanks to a vertically focusing heusler-111 monochromator). the polarization analysis is performed through a horizontally focusing heusler-111 analyser, which will be replaced soon by a double focusing heusler-111 one. TAS-IN22 has been designed to have the best possible signal/background ratio, rather than to optimize the flux. a **disorder and strain-induced complexity in functional ...** -

disorder and strain-induced complexity in functional materials bearbeitet von tomoyuki kakeshita, takashi fukuda, avadh saxena, antoni planes 1. auflage 2011. buch. xvi, 308 s. hardcover isbn 978 3 642 20942 0 format (b x l): 15,5 x 23,5 cm gewicht: 649 g weitere fachgebiete > technik > werkstoffkunde, mechanische technologie > **spin waves and phonons in the cmr ferromagnet la mno** - the cmr effect is believed to be the double-exchange (de) interaction, where ferromagnetism and electrical conductivity arise from hopping of the itinerant e g electrons from trivalent mn³⁺ to tetravalent mn⁴⁺ sites. the physics of the cmr effect, however, is far from being completely understood. it is known, for example, that the de **pdf hosted at the radboud repository of the radboud ...** - pdf hosted at the radboud repository of the radboud university nijmegen **mn₂coz=al,ga,in,si,ge,sn,sb compounds: structural ...** - structural, electronic, and magnetic properties in the past two decades. recently, ozdogan et al. reported the defect-driven appearance of half-metallic ferrimagnetism in co-mn-based heusler alloys³ and the defect-induced ferrimagnetism in the half-metallic co₂cral and co₂crsi compounds.¹⁹ galanakis **time-reversal-breaking weyl fermions in magnetic heusler ...** - time-reversal-breaking weyl fermions in magnetic heusler alloys ... which has been double-checked with the modified becke-johnson exchange potential [55]. this suggests a good half-metallic property, which is consistent with the experimental investigation of the spin-resolved **first principles electronic structure and magnetic ...** - the full-heusler compounds discussed here are crystallized in the hg₂cuti-type xa structure, the typical sequence of the chemicals are x-x-y-z along the diagonal direction of cubic cell. this exchange arrangement of atoms means that two cr atoms are no longer equivalent. a schematic representation of the inverse heusler compounds is given in ... **spin dependent transport studies in magnetic, non-magnetic ...** - abstract spin dependent transport studies in magnetic, non-magnetic, antiferromagnetic, and half metals. by rakhi acharyya this thesis consists of three studies of current-perpendicular-to-the-planes (cpp) mag- **scope of tetragonal manganese based heusler alloys in ...** - scope of tetragonal manganese based heusler alloys in context of magneto crystalline anisotropy gagandeep aulakh ... teller distortion. alternatively, a double degenerate van hove singularity, i.e. a saddle point in the band structure, can lead to ... to the exchange interaction between the spin of the incoming **compensated magnetism by design in double perovskite oxides** - compensated magnetism by design in double perovskite oxides ... for heusler-structured materials.¹⁵⁻¹⁷ design of materials with desired properties is a long-standing hope that is gain- ... the exchange-correlation potential used was the perdew and **compensated magnetism by design in double perovskite oxides** - compensated magnetism by design in double perovskite oxides ... heusler-structured materials.¹⁵⁻¹⁷ design of materials with desired properties is a long-standing hope that is gaining momentum,¹⁸ and the considerable ... the exchange-correlation potential used was the **ab initio study of the structural, electronic, and ...** - to date, such as double perovskite, spinel, or zinc-blende structured materials, heusler alloys have recently attracted much attention for their relatively high spin polarization and large magnetic moment. on the base of an ab initio study on the structural, electronic, and magnetic properties of the two alloys co₂fega and co₂fesi, **spin wave excitation patterns generated by spin torque ...** - spin wave excitation patterns generated by spin torque oscillators f macia¹, f c hoppensteadt² and a d kent¹ ¹ department of physics, new york university, 4 washington place, new york, ny 10003, usa ² courant institute of mathematical sciences, new york university, 251 mercer street, new york, ny 10012, usa e-mail: ferran@ubxlab **the development of simple calculation model for energy ...** - the first instance of the double skin curtain wall appears in 1903 in germany. this building accommodates toy factory and was designed by richard steiff. at the end of 1920's double skins were developed in russia in communal housing by moisei ginzburg. some other projects with double skins by le corbusier were also developed in late 1920s. **mn-doped monolayer mos₂: an atomically thin dilute ...** - demonstrate that exchange interactions in mn/mos₂ dmss are primarily governed by the double-exchange mechanism and are relatively short ranged, making percolation a key factor in magnetic ordering. based on our dft-parameterized mc simulations, we suggest that dopant concentrations in the range of 10-15% might be sufficient to provide room-

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