

PD Dr. Martin Jourdan, List of Publications (26.01.2018):

83. *Complex Terahertz and Direct Current Inverse Spin Hall Effect in YIG/Cu_{1-x}Ir_x Bilayers Across a Wide Concentration Range*
Joel Cramer, Tom Seifert, Alexander Kronenberg, Felix Fuhrmann, Gerhard Jakob, **Martin Jourdan**, Tobias Kampfrath, and Mathias Kläui
Nano Letters (accepted).
82. *Writing and reading antiferromagnetic Mn₂Au by Néel spin-orbit torques and large anisotropic magnetoresistance*
S.Yu. Bodnar, L. Šmejkal, I. Turek, T. Jungwirth, O. Gomonay, J. Sinova, A.A. Sapozhnik, H.-J. Elmers, M. Kläui, and **M. Jourdan**
Nature Communications 9, 348 (2018).
81. *Manipulation of antiferromagnetic domain distribution in Mn₂Au by ultrahigh magnetic fields and by strain*
R. Abrudan, Yu. Skourski, M. **Jourdan**, H. Zabel, M. Kläui, H.-J. Elmers
Physica Status Solidi – rrl 11, 1600438 (2017).
80. *Dirac cone and pseudogapped density of states in the topological half-Heusler compound YPtBi*
A. Kronenberg, J. Braun, J. Minár, H.-J. Elmers, D. Kutnyakhov, A. V. Zaporozhchenko, R. Wallauer, S. Chernov, K. Medjanik, G. Schönhense, M. Kläui, S. Chadov, H. Ebert, and **M. Jourdan**
Phys. Rev. B 94, 161108 (2017).
79. *Efficient metallic spintronic emitters of ultrabroadband terahertz radiation*
T. Seifert, S. Jaiswal, U. Martens, J. Hannegan, L. Braun, P. Maldonado, F. Freimuth, A. Kronenberg, J. Henrizi, I. Radu, E. Beaurepaire, Y. Mokrousov, P. M. Oppeneer, **M. Jourdan**, G. Jakob, D. Turchinovich, L. M. Hayden, M. Wolf, M. Münzenberg, M. Kläui, and T. Kampfrath
Nature Photonics, 10, 483 (2016).
78. *Evidence for Eight-Node Mixed-Symmetry Superconductivity in a Correlated Organic Metal*
Daniel Guterding, Sandra Diehl, Michaela Altmeyer, Torsten Methfessel, Ulrich Tutsch, Harald Schubert, Michael Lang, Jens Müller, Michael Huth, Harald O. Jeschke, Roser Valentí, **Martin Jourdan**, and Hans-Joachim Elmers
Phys. Rev. Lett., 116, 237001 (2016).
77. *Superconducting Energy Gap Features of FeSe Investigated by Tunneling Spectroscopy on Planar Junctions*
Eike Venzmer, Alexander Kronenberg, and **Martin Jourdan**
J. Supercon. Nov. Magn., 4, 897 (2016).
76. *Spin Currents injected electrically and thermally from highly spin polarized Co₂MnSi*
Alexander Pfeiffer, Shaojie Hu, Robert M. Reeve, Alexander Kronenberg, **Martin Jourdan**, Takashi Kimura, and Mathias Kläui
Appl. Phys. Lett., 107, 082401 (2015).
75. *Epitaxial Mn₂Au thin films for antiferromagnetic spintronics*
M. Jourdan, H. Bräuning, A. Sapozhnik, H.-J. Elmers, H. Zabel, and M. Kläui

- J. Phys. D: Appl. Phys., 48, 385001 (2015).
74. *Magnetic configurations in nanostructured Co₂MnGa thin film elements*
S Finizio , A Kronenberg , M Vafaei , M Foerster , K Litzius , A de Lucia , T O Menteş , L Aballe , B Krüger , **M Jourdan** and M Kläui
New J. Phys. **17**, 083030 (2015).
 73. *Disorder-induced gap in the normal density of states of the organic superconductor κ -(BEDT-TTF)₂Cu[N(CN)₂]Br*
Sandra Diehl, Torsten Methfessel, Ulrich Tutsch, Jens Müller, Michael Lang, Michael Huth, **Martin Jourdan** and Hans-Joachim Elmers
J. Phys.: Condens. Matter **27**, 265601 (2015).
 72. *Monitoring surface resonances on Co₂MnSi(100) by spin-resolved photoelectron spectroscopy.*
J. Braun, **M. Jourdan**, J. Minár, A. Kronenberg, S. Chadov, B. Balke, A. Gloskovskii, M. Kolbe, H.J. Elmers, G. Schönhense, H. Ebert, C. Felser and M. Kläui; Phys. Rev. B, **91**, 195128 (2015).
 71. *Revival of Heusler compounds for spintronics*
M. Jourdan, Materials Today **17**, 362 (2014).
 70. *Direct observation of half-metallicity in the Heusler compound Co₂MnSi.*
M. Jourdan, J. Minár, J. Braun, A. Kronenberg, S. Chadov, B. Balke, A. Gloskovskii, M. Kolbe, H.J. Elmers, G. Schönhense, H. Ebert, C. Felser and M. Kläui; Nature Communications **5**, 3974 (2014).
 69. *Thin Film Growth of Fe-based Superconductors: From Fundamental Properties to Functional Devices. A comparative review.*
S. Haindl, M. Kitzun, S. Oswald, C. Hess, B. Büchner, S. Kölling, L. Wilde, T. Thersleff, **M. Jourdan**, H. Hiramatsu, H. Hosono,
Rep. Prog. Phys. **77**, 046502 (2014).
 68. *Magnetic anisotropy engineering in thin film Ni nanostructures by magneto-elastic coupling.*
S. Finizio, M. Foerster, M. Buzzi, B. Krüger, **M. Jourdan**, C.A.F. Vaz, J. Hockel, T. Miyawaki, A. Tkach, S. Valencia, F. Kronast, G.P. Carman, F. Nolting, and M. Kläui,
Phys. Rev. Appl. **1**, 021001 (2014).
 67. *Microwave spectroscopy on heavy-fermion systems: Probing the dynamics of charges and magnetic moments*
Marc Scheffler, Katrin Schlegel, Conrad Clauss, Daniel Hafner, Christian Fella, Martin Dressel, **Martin Jourdan**, Jörg Sichelschmidt, Cornelius Krellner, Christoph Geibel, Frank Steglich
Phys. Stat. Sol. **250**, 439 (2013).
 66. *Test of band structure calculations for Heusler compounds by spin-resolved photoemission spectroscopy*
M. Kolbe, S. Chadov, E. Arbelo Jorge, G. Schönhense, C. Felser, H.-J. Elmers, M. Kläui, and **M. Jourdan**
Phys. Rev. B, **86**, 024422 (2012).
 65. *Electric transport through nanometric CoFe₂O₄ thin films investigated by conducting atomic force microscopy*
M. Foerster, D. F. Gutierrez, J. M. Rebled, E. Arbelo, F. Rigato, **M. Jourdan**, F. Peiro, J. Fontcuberta,

- J. Appl. Phys. **111**, 013904 (2012).
64. *Element-specific ferromagnetic resonance in epitaxial Heusler spin valve systems*
P. Klaer, F. Hoffmann, G. Woltersdorf, E. Arbelo Jorge, **M. Jourdan**, C. H. Back, and H. J. Elmers,
J. Phys. D: Appl. Phys. **44**, 425004 (2011).
63. *Terahertz conductivity of the heavy-fermion compound UNi₂Al₃*
Julia P. Ostertag, Marc Scheffler, Martin Dressel, **Martin Jourdan**
Phys. Rev. B **84**, 035132 (2011).
62. *Significant spin polarization of Co₂MnGa Heusler thin films on MgO(100) measured by ultraviolet photoemission spectroscopy*
Michaela Hahn, Gerd Schönhense, Elena Arbelo Jorge, and **Martin Jourdan**
Appl. Phys. Lett. **98**, 232503 (2011).
61. *Spectroscopy of the electronic states of the Heusler compounds Co₂FeAl and Co₂Cr_{0.6}Fe_{0.4}Al and the influence of oxidation*
Martin Jourdan, Fabian Große-Schulte, Michaela Hahn and Gerd Schönhense
J. Phys. D: Appl. Phys **44**, 155001 (2011).
60. *Temperature dependence of x-ray absorption spectra in the ferromagnetic Heusler alloys Mn₂VAl and Co₂FeAl*
P. Klaer, E. Arbelo Jorge, **M. Jourdan**, W. H. Wang, H. Sukegawa, K. Inomata, and H. J. Elmers
Phys. Rev. B **82**, 024418 (2010).
59. *Preparation, characterization, and upper critical field of epitaxial FeSe thin films*
Sebastian ten Haaf and **Martin Jourdan**
J. Appl. Phys. **108**, 023913 (2010).
58. *Microwave conductivity of heavy fermions in UPd₂Al₃*
Marc Scheffler Marc, Martin Dressel and **Martin Jourdan**
Eur. Phys. J. B **74**, 331 (2010).
57. *Observing the anisotropic optical response of the heavy-fermion compound UNi₂Al₃*
Julia P. Ostertag, Marc Scheffler, Martin Dressel, **Martin Jourdan**
Physica Status Solidi B **247**, 760 (2010).
56. *Interface and bulk magnetism of Co₂Cr_{0.6}Fe_{0.4}Al and Co₂CrAl thin films*
M. Jourdan, E.Arbelo Jorge, C.Herbort, M.Kallmayer, P.Klaer, and H. J.Elmers
Appl.Phys. Lett. **95**, 172504 (2009).
55. *Spin-resolved unoccupied density of states in epitaxial Heusler-alloy films*
M. Kallmayer, P. Klaer, H. Schneider, E. Arbelo Jorge, C. Herbort, G. Jakob, **M. Jourdan**, and H. J. Elmers.
Phys. Rev. B **80**, 020406 (2009)
54. *Magnetic and structural properties of Co₂FeAl_{1-x}Si_x thin films*
E.Arbelo Jorge, **M. Jourdan**, M.Kallmayer, P.Klaer, and H. J.Elmers
Journal of Physics: Conference Series (2009), accepted.
53. *Magnetoresistance of Fe thin films on faceted Al₂O₃ substrates*
S. Mooser and **M. Jourdan**

- J. Appl. Phys. **105**, 123908 (2009).
52. *Morphology induced magnetoresistance enhancement of tunneling junctions with the Heusler electrode $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$*
C. Herbort, E. Arbelo Jorge, and **M. Jourdan**
Appl. Phys. Lett. **94** 142504 (2009)
51. *Morphology and magnetoresistance of $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ -based tunnelling junctions*
C. Herbort, E. Arbelo, and **M. Jourdan**
J. Phys. D: Appl. Phys, **42**, 8406 (2009).
50. *Effects of post-growth annealing on structural and compositional properties of the $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ surface and its relevance for the surface electron spin polarization*
J.-P. Wüstenberg, J. Fischer, C. Herbort, **M. Jourdan**, M. Aeschlimann and M. Cinchetti
J. Phys. D: Appl. Phys, **42**, 8416 (2009).
49. *Brillouin light scattering study of $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ and Co_2FeAl Heusler compounds*
O. Gaier, J. Hamrle, S. Trudel, A. Conca Parra, B. Hillebrands, E. Arbelo, C. Herbort and **M. Jourdan**
J. Phys. D: Appl. Phys, **42**, 8404 (2009).
48. *Low-temperature microwave response of heavy-fermion compounds*
M. Scheffler, M. Dressel, and **M. Jourdan**
Journal of Physics: Conference Series **150**, 042174 (2009)
47. *Magnetic and Electronic Properties of Heusler Alloy Films Investigated by X-Ray Magnetic Circular Dichroism*
H.J. Elmers, A. Conca, T. Eichhorn, A. Gloskovskii, K. Hild, G. Jakob, **M. Jourdan** ,
M. Kallmayer
Advances in Solid State Physics, **48** 171-182 (2009).
46. *Ni-based superconductor: Heusler compound ZrNi_2Ga*
J. Winterlik, G.H. Fecher, C. Felser, **M. Jourdan**, K. Grube, F. Hardy, H. von Lohneysen, K.L. Holman, R.J. Cava
Phys. Rev. B, **78**, 054001 (2008).
45. *Conversion electron Mossbauer spectroscopy of epitaxial $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ thin films*
V. Ksenofontov, C. Herbort, **M. Jourdan**, C. Felser
Appl. Phys. Lett. **92**, 262501 (2008)
44. *Anisotropic transport properties of UNi_2Al_3 thin films*
M. Foerster, A. Zakharov, and **M. Jourdan**
Phys. Rev. B, **76**, 144519 (2007).
43. *Tunneling spectroscopy of the Heusler compound $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$*
M. Jourdan, A. Conca, C. Herbort, M. Kallmayer, H. J. Elmers, and H. Adrian
J. Appl. Phys. **102**, 092710 (2007).
42. *Epitaxial $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$ thin films and magnetic tunnel junctions.*
A. Conca, **M. Jourdan**, and H. Adrian,
J. Phys. D: Appl. Phys, **40**, 1534 (2007).
41. *Towards a full Heusler alloy showing room temperature half-metallicity at the surface*

- M. Cinchetti, J.-P. Wüstenberg, M. Sánchez Albaneda, F. Steeb, A. Conca, **M. Jourdan**, and M. Aeschlimann, J. Phys. D: Appl. Phys, 40, 1544 (2007).
40. *Correlation of local disorder and electronic properties in the Heusler alloy $Co_2Cr_{0.6}Fe_{0.4}Al$*
M. Kallmayer, A. Conca, **M. Jourdan**, H. Schneider, G. Jakob, H. J. Elmers, and A. Gloskovskii, J. Phys. D: Appl. Phys, 40, 1539 (2007).
39. *Epitaxy of thin films of the Heusler compound $Co_2Cr_{0.6}Fe_{0.4}Al$*
A. Conca, **M. Jourdan**, C. Herbort, and H. Adrian, cond-mat/0605698, J. of Crystal Growth **299**, 299-302, (2007).
38. *Electronic properties of a^* -oriented UPd_2Al_3 thin films*
M. Foerster, **M. Jourdan**, A. Zakharov, C. Herbort, and H. Adrian, Journ. Magn. Mag. Mat., doi:10.1016/j.jmmm2006.10.064 (2006).
37. *Dynamics of heavy fermions: Drude response in UPd_2Al_3 and UNi_2Al_3*
M. Scheffler, M. Dressel, **M. Jourdan**, and H. Adrian Physica B **378-380**, 993-994 (2006).
36. *Magnetic anisotropies and magnetization reversal on the $Co_2Cr_{0.6}Fe_{0.4}Al$ Heusler compound*
J. Hamrle, S. Blomeier, O. Gaier, B. Hillebrands, R. Schäfer, and **M. Jourdan**, J. Appl. Phys. **100**, 103904 (2006).
35. *Tunneling Spectroscopy on Epitaxial UNi_2Al_3 Thin Films*
A. Zakharov, **M. Jourdan**, and H. Adrian, AIP Conference Proceedings **850**, 655 (2006).
34. *Dynamics of heavy fermions: Drude response in UPd_2Al_3 and UNi_2Al_3*
M. Scheffler, M. Dressel, **M. Jourdan**, and H. Adrian, Physica B, **378-380**, 993 (2006).
33. *Magnetic order in thin films of the heavy fermion superconductor UNi_2Al_3*
M. Jourdan, A. Zakharov, A. Hiess, T. Charlton, N. Bernhoeft, and D. Mannix, Eur. Phys. J. B **48**, 445 (2005).
32. *Magnetic tunnel junctions with the Heusler compound $Co_2Cr_{0.6}Fe_{0.4}Al$*
A. Conca, S. Falk, G. Jakob, **M. Jourdan** and H. Adrian, J. Magn. Mag. Mat. **290-291** 1127 (2005).
31. *Extremely slow Drude relaxation of correlated electrons*
M. Scheffler, M. Dressel, **M. Jourdan**, and H. Adrian, Nature **438**, 1135 (2005).
30. *Magnetic tunnelling junctions with the Heusler compound $Co_2Cr_{0.6}Fe_{0.4}Al$*
A. Conca, S. Falk, G. Jakob, **M. Jourdan**, and H. Adrian, J. Mag. Mag. Mat. **290-291**, 1127 (2005)
29. *Direct observation of Drude behaviour in the heavy fermion UPd_2Al_3 by broadband microwave spectroscopy,*
M. Scheffler, M. Dressel, **M. Jourdan**, H. Adrian, Physica B, **359**, 1150 (2005).

28. *Preparation of superconducting films of UNi₂Al₃,*
A. Zakharov, **M. Jourdan**, M. Foerster and H. Adrian,
Physica B **359**, 1108 (2005).
27. *Transport Anisotropy and B_{c2}(Θ ,T) of UNi₂Al₃ thin films,*
M. Jourdan, A. Zakharov, H. Schneider and H. Adrian,
Physica B **359**, 1153 (2005).
26. *Evidence for multiband superconductivity in the heavy fermion compound UNi₂Al₃,*
M. Jourdan, A. Zakharov, M. Foerster, and H. Adrian,
Phys. Rev. Lett. **93**, 097001 (2004).
25. *Preparation of thin films of the heavy fermion superconductor UNi₂Al₃,*
M. Jourdan, A. Zakharov, M. Foerster and H. Adrian
J. Magn. Mag. Mat. **272-276**, E163-E164 (2004).
24. *Superconductivity of SrTiO_{3- δ}*
M. Jourdan, N. Blümer and H. Adrian; Eur. Phys. J. B **33**, 25 (2003)
23. *Possibility of unconventional superconductivity of SrTiO_{3- δ ,}*
M. Jourdan and H. Adrian,
Physica C **388**, 509 (2003)
22. *Correlation gap in the heavy fermion antiferromagnet UPd₂Al₃,*
M. Dressel, N. Kasper, B. Gorshunov, K. Pethukov, D. N. Peligrad, **M. Jourdan**, M.
Huth, and H. Adrian,
Phys. Rev. B **66**, 035110 (2002).
21. *Unkonventionelle Supraleitung,*
P. Thalmeier, **M. Jourdan** und M. Huth; Physik Journal **6**, 51 (2002).
20. *Elektrisches Kontaktelement mit Schwingungsentkopplung,*
M. Jourdan (Robert Bosch GmbH),
Patent DE10138755A (eingereicht 2001, veröffentlicht 2003)
19. *c-axis tunneling in YBa₂Cu₃O_{7- δ }/PrBa₂Cu₃O₇ superlattices,}*
J. Martinez, A. Schattke, **M. Jourdan**, and H. Adrian,
Phys. Rev. B **61**, 9162 (2000).
18. *Antiferromagnetism and the node structure of the superconducting order parameter of UPd₂Al₃,*
M. Huth, **M. Jourdan**, and H. Adrian,
Eur. Phys. J. B **13**, 695 (2000).
17. *Strong coupling effects in the heavy-fermion superconductor UPd₂Al₃,*
M. Huth, **M. Jourdan** and H. Adrian,
Physica B **281**, 882 (2000).
16. *Heavy-Fermion Superconductivity Induced by Antiferromagnetic Spin Fluctuations,*
M. Huth and **M. Jourdan**,
Advances in Solid State Physics **39**, Vieweg, 351 (1999).
15. *Superconductivity mediated by antiferromagnetic spin fluctuations in the heavy fermion compound UPd₂Al₃,*
M. Jourdan, M. Huth and H. Adrian,

- Nature **398**, 47 (1999).
14. *Tunneling into epitaxial UPd₂Al₃ thin films*,
M. Jourdan, M. Huth, P. Haibach, and H. Adrian,
Physica B **261**, 621 (1999).
 13. *Magnetic properties of UPd₂Al₃ thin films investigated by resonant magnetic X-ray scattering*,
A. Hiess, N. Bernhoeft, S. Langridge, C. Vettier, **M. Jourdan**, M. Huth, H. Adrian,
and G. H. Lander,
Physica B **261**, 631 (1999).
 12. *Probe coherence volume and the interpretation of scattering experiments*,
N. Bernhoeft, A. Hiess, S. Langridge, A. Stunault, D. Wermeille, C. Vettier, G. H.
Lander, M. Huth, **M. Jourdan**, and H. Adrian,
Phys. Rev. Lett. **81** 3419 (1998).
 11. *Tunneling junctions of the heavy-fermion superconductor UPd₂Al₃*,
M. Jourdan, M. Huth, S. Mouloud, and H. Adrian,
Journ. Magn. Mag. Mat. **177**, 431 (1998).
 10. *Frequency-dependent conductivity of UPd₂Al₃ films*,
M. Dressel, B. Gorshunov, A. Pronin, A. Mukhin, F. Mayr, A. Seeger, P.
Lunkenheimer, A. Loidel, **M. Jourdan**, M. Huth, and H. Adrian; Physica B **244**, 125
(1998).
 9. *Probing the superconducting state of UPd₂Al₃ thin films by tunneling spectroscopy*,
M. Jourdan, M. Huth, S. Mouloud, and H. Adrian,
Physica C **282-287**, 1883 (1997).
 8. *Superconducting tunneling spectroscopy on epitaxial UPd₂Al₃ thin films*,
M. Jourdan, M. Huth, J. Hessert, and H. Adrian,
Physica B **230-232**, 335 (1997).
 7. *Evidence for unconventional superconductivity in UPd₂Al₃ thin films*,
M. Jourdan, M. Huth, and H. Adrian,
Czech. J. Phys. **46-S2 (LT21)**, 789 (1996).
 6. *Strain induced renormalization of transport properties in UPt₃ thin films*,
M. Huth, J. Hessert, S. Reber, **M. Jourdan**, and H. Adrian,
Czech. J. Phys. **46-S2 (LT21)**, 791 (1996).
 5. *Anisotropic transport of UPd₂Al₃ thin films*,
J. Hessert, M. Huth, **M. Jourdan**, and H. Adrian,
Physica B **206-207**, 618 (1995).
 4. *Activation energy and critical current in UPd₂Al₃ thin films*,
M. Huth, J. Hessert, **M. Jourdan**, and H. Adrian,
Physica B **206-207**, 615, (1995).
 3. *Low temperature magnetoresistance of UPd₂Al₃ thin films*,
J. Hessert, M. Huth, **M. Jourdan**, and H. Adrian,
Physica B **235-240**, 2437, (1994).
 2. *Magnetic field and temperature dependent Hall-effect in epitaxial UPd₂Al₃ thin films*,

M. Huth, J. Hessert, **M. Jourdan**, A. Kaldowski, and H. Adrian,
Physica B **235-240**, 2439, (1994).

1. *Coherence effects in the low temperature Hall coefficient of the heavy fermion system*
UPd₂Al₃,

M. Huth, J. Hessert, **M. Jourdan**, A. Kaldowski, and H. Adrian,
Phys. Rev. B, **50**, 1309 (1994).