

Selected Publications

Wolfram Weise

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A. Monographs

Pions and Nuclei (with T.E.O. Ericson)
International Series of Monographs in Physics
Oxford University Press
Clarendon, Oxford 1988

Russian Edition:
Akad. Nauka, Moscow 1991

The Structure of the Nucleon (with A.W. Thomas)
Wiley - VCH Publishing Co.
Berlin / New York 2001

B. Selected Publications last 12 years (since 2005)

250. N. Kaiser, W.Weise
Chiral SU(3) dynamics and Lambda-hyperons in the nuclear medium
Phys. Rev. **C 71** (2005) 015203
251. B. Borasoy, R. Nißler, W.Weise
Kaonic hydrogen and K-p scattering
Phys. Rev. Lett. **94** (2005) 213401
252. S. Fritsch, N. Kaiser, W.Weise
Chiral approach to nuclear matter:
role of two-pion exchange with virtual delta excitation
Nucl. Phys. **A 750** (2005) 259
253. W.Weise
Nucleons and nuclei in the context of low-energy QCD
Nucl. Phys. **A 751** (2005) 565
254. M. Procura, T. Hemmert, W. Weise
Chiral extrapolations of nucleon mass and axial vector coupling g_A
Nucl. Phys. **A 755** (2005) 649
255. L. Girlanda, A. Rusetsky, W. Weise
The pion-nucleus optical potential to $O(p^5)$ in chiral perturbation theory
Nucl. Phys. **A 755** (2005) 653
256. B. Borasoy, R. Nißler, W.Weise
Chiral SU(3) dynamics of kaon-nucleon interactions, revisited
Eur. Phys. J. **A 25** (2005) 79
257. D. Jido, W.Weise
Strange magnetic moment of the nucleon and SU(3) breaking
Phys. Rev. **C 72** (2005) 045203
258. W.Weise
Topics in QCD and hadron physics
in: Proc. Int. School of Physics "Enrico Fermi", Course CLVIII,
IOS Press Amsterdam (2005), p. 1-53
259. W.Weise
The QCD vacuum and its hadronic excitations
in: Hadron Physics, I. MacGregor and R. Kaiser, eds.,
Taylor & Francis (2006), p. 201 - 232
260. M. Procura, B.U. Musch, T.Wollenweber, T. Hemmert, W.Weise
Nucleon mass: from lattice QCD to the chiral limit
Phys. Rev. **D 73** (2006) 114510
261. C. Ratti, M.Thaler, W.Weise
Phases of QCD: lattice thermodynamics and a field theoretical model
Phys. Rev. **D 73** (2006) 014019
262. M. Procura, B.U. Musch, T. Hemmert, W.Weise
Quark mass dependence of nucleon mass and axial-vector constant
Nucl. Phys. Proc. Suppl. **153** (2006) 229
263. P. Finelli, N. Kaiser, D.Vretenar, W.Weise
Relativistic nuclear energy density functional constrained by low-energy QCD
Nucl. Phys. **A 770** (2006) 1
264. B. Borasoy, R. Nißler, W.Weise
Comment on 'Surprises in threshold antikaon-nucleon physics'
Phys. Rev. Lett. **96** (2006) 199201
265. N. Kaiser, M. Mühlbauer, W.Weise
Scales in nuclear matter: chiral dynamics with pion-nucleon form factors
Eur. Phys. J. **A 31** (2007) 53
266. M. Procura, B.U. Musch, T. Hemmert, W.Weise
Chiral extrapolation of g_A with explicit Delta(1232) degrees of freedom
Phys. Rev. **D 75** (2007) 014503

267. C. Ratti, S. Rößner, M. Thaler, W. Weise
Thermodynamics of the PNJL model
Eur. Phys. J. **C 49** (2007) 213
268. S. Rößner, C. Ratti, W. Weise
Polyakov loop, diquarks and the two-flavour phase diagram
Phys. Rev. **D 75** (2007) 034007
269. C. Ratti, S. Rößner, W. Weise
Quark number susceptibilities: lattice QCD versus PNJL model
Phys. Lett. **B 649** (2007) 57
270. C. Ratti, S. Rößner, W. Weise
A field theoretical model for QCD thermodynamics
J. Phys. **G 34** (2007) 647
271. P. Finelli, N. Kaiser, D. Vretenar, W. Weise
Chiral pion-nucleon dynamics in finite nuclei: spin-isospin excitations
Nucl. Phys. **A 791** (2007) 57
272. W. Weise, C. Ratti, S. Rößner
Phases of QCD, Polyakov loop and quasiparticles
Prog. Theor. Phys. Suppl. **168** (2007) 435
273. P. Finelli, N. Kaiser, D. Vretenar, W. Weise
In-medium chiral SU(3) dynamics and hypernuclear structure
Phys. Lett. **B 658** (2007) 90
274. A. Doté, W. Weise
Study of light kaonic nuclei with a chiral SU(3) based $K\bar{a}N$ interaction
Prog. Theor. Phys. Suppl. **168** (2007) 435
275. W. Weise
Yukawa's pion, low-energy QCD and nuclear chiral dynamics
Prog. Theor. Phys. Suppl. **170** (2007) 161
276. N. Kaiser, P. de Homont, W. Weise
In-medium chiral condensate beyond linear density approximation
Phys. Rev. **C 77** (2008) 025204
277. T. Hyodo, W. Weise
Effective $K\bar{a}N$ interaction based on chiral SU(3) dynamics
Phys. Rev. **C 77** (2008) 035204
278. N. Kaiser, W. Weise
Note on spin-orbit interactions in nuclei and hypernuclei
Nucl. Phys. **A 804** (2008) 60
279. W. Weise, R. Härtle
Chiral SU(3) dynamics and antikaon-nuclear quasibound states
Nucl. Phys. **A 804** (2008) 173
280. A. Doté, T. Hyodo, W. Weise
K-pp system with chiral SU(3) effective interaction
Nucl. Phys. **A 804** (2008) 197
281. W. Weise
Overview and perspectives in nuclear physics
Nucl. Phys. **A 805** (2008) 115
282. S. Rößner, T. Hell, C. Ratti, W. Weise
Phases of QCD and PNJL model beyond mean field theory
Nucl. Phys. **A 805** (2008) 51
283. Y. Kwon, M. Procura, W. Weise
QCD sum rules for the rho meson in vacuum and in-medium, revisited
Phys. Rev. **C 78** (2008) 055203
284. S. Rößner, T. Hell, C. Ratti, W. Weise
The chiral and deconfinement crossover transitions: PNJL model beyond mean field
Nucl. Phys. **A 814** (2008) 118
285. W. Weise
Hot and dense hadronic matter: selected topics
Prog. Theor. Phys. Suppl. **174** (2008) 1
286. M. Harada, S. Sasaki, W. Weise
Vector-axialvector mixing from a chiral effective field theory at finite temperature
Phys. Rev. **C 78** (2008) 114003
287. N. Kaiser, W. Weise
Chiral condensate in neutron matter
Phys. Lett. **B 671** (2009) 25
288. A. Doté, T. Hyodo, W. Weise
Variational calculation of the K-pp system based on chiral SU(3) dynamics
Phys. Rev. **C 79** (2009) 014003
289. T. Hell, S. Rößner, M. Cristoforetti, W. Weise
Dynamics and thermodynamics of a non-local Polyakov - Nambu - Jona-Lasinio model with running coupling
Phys. Rev. **D 79** (2009) 014022

290. J. Holt, N. Kaiser, W. Weise
Chiral three-nucleon interaction and the carbon-14 dating beta decay
Phys. Rev. C **79** (2009) 054331
291. C. Sasaki, M. Harada, W. Weise
Role of axial-vector meson near the chiral phase transition
Nucl. Phys. A **827** (2009) 350c
292. W. Weise
Low-energy QCD and hadronic structure
Nucl. Phys. A **827** (2009) 66c
293. A. Doté, T. Hyodo, W. Weise
Variational calculation of K-pp with chiral SU(3)-based KbarN interaction
Nucl. Phys. A **827** (2009) 315c
294. W. Weise
Selected challenges in low-energy QCD and hadron physics
Nucl. Phys. B (Proc. Suppl.) **195** (2009) 267
295. P. Finelli, N. Kaiser, D. Vretenar, W. Weise
Hypernuclear single particle spectra based on in-medium chiral SU(3) dynamics
Nucl. Phys. A **831** (2009) 163
296. J. W. Holt, N. Kaiser, W. Weise
Density-dependent effective nucleon-nucleon interaction from
chiral three-nucleon forces
Phys. Rev. C **81** (2010) 024002
297. W. Weise
Antikaon interactions with nucleons and nuclei
Nucl. Phys. A **835** (2010) 51
298. N. Kaiser, W. Weise
Nuclear energy density functional from chiral pion dynamics revisited
Nucl. Phys. A **836** (2010) 256
299. T. Hell, S. Rößner, M. Cristoforetti, W. Weise
Thermodynamics of a three-flavor non-local Polyakov-Nambu-Jona-Lasinio model
Phys. Rev. D **81** (2010) 074034
300. Y. Kwon, C. Sasaki, W. Weise
Vector mesons and finite temperature and QCD sum rules
Phys. Rev. C **81** (2010) 065203
301. W. Weise
Symmetries and symmetry breaking patterns in QCD:
chiral and deconfinement transitions
Nucl. Phys. A **844** (2010) 73
302. M. Cristoforetti, T. Hell, B. Klein, W. Weise
Thermodynamics and quark susceptibilities:
a Monte Carlo approach to the PNJL model
Phys. Rev. D **81** (2010) 114017
303. L. S. Geng, N. Kaiser, J. Martin-Camalich, W. Weise
Low-energy interactions of Nambu-Goldstone bosons with
D mesons in covariant chiral perturbation theory
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304. W. Weise
Chiral symmetry in strongly interacting matter
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305. L. S. Geng, M. Altenbuchinger, W. Weise
Light quark mass dependence of the D and Ds decay constants
Phys. Lett. B **696** (2011) 390
306. A. Laschka, N. Kaiser, W. Weise
Quark-antiquark potential to order 1/m and heavy quark masses
Phys. Rev. D **83** (2011) 094002
307. T. Hell, K. Kashiwa, W. Weise
Extensions and further applications of the nonlocal Polyakov -
Nambu - Jona-Lasinio model
Phys. Rev. D **83** (2011) 114008
308. J. Holt, N. Kaiser, W. Weise
Second-order quasiparticle interaction in nuclear matter with
chiral two-nucleon interactions
Phys. Rev. D **83** (2011) 114008

309. K. Kashiwa, T. Hell, W. Weise
Nonlocal Polyakov - Nambu - Jona-Lasinio model and
imaginary chemical potential
Phys. Rev. **D 84** (2011) 056010
310. L.S. Geng, X.L. Ren, J. Martin-Camalich, W. Weise
Finite-volume effects on octet-baryon masses in covariant
baryon chiral perturbation theory
Phys. Rev. **D 84** (2011) 074024
311. J. Holt, N. Kaiser, W. Weise
Nuclear energy density functional from chiral two- and three-nucleon interactions
Eur. Phys. J. **A 47** (2011) 128
312. Y. Ikeda, T. Hyodo, W. Weise
Improved constraints on chiral SU(3) dynamics from kaonic hydrogen
Phys. Lett. **B 706** (2011) 63
313. M. Altenbuchinger, Ph. Hagler, W. Weise, E.M. Henley
Spin structure of the nucleon: QCD evolution, lattice results and models
Eur. Phys. J. **A 47** (2011) 140
314. J. Holt, N. Kaiser, W. Weise
Quasiparticle interaction in nuclear matter with chiral three-nucleon forces
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315. S. Fiorilla, N. Kaiser, W. Weise
Chiral thermodynamics of nuclear matter
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316. J. Holt, N. Kaiser, W. Weise
Chiral nuclear dynamics with three-body forces
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317. S. Fiorilla, N. Kaiser, W. Weise
Chiral nuclear thermodynamics
Prog. Nucl. Part. Phys. **67** (2012) 317
318. W. Weise
Nuclear chiral dynamics and phases of QCD
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319. Y. Ikeda, T. Hyodo, W. Weise
Chiral SU(3) theory of antikaon-nucleon interactions with improved
threshold constraints
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320. M. Altenbuchinger, L.S. Geng, W. Weise
SU(3) breaking corrections to the D, D*, B and B* decay constants
Phys. Lett. **B 713** (2012) 453
321. S. Fiorilla, N. Kaiser, W. Weise
Nuclear thermodynamics and the in-medium chiral condensate
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322. A. Laschka, N. Kaiser, W. Weise
Charmonium potentials: matching perturbative and lattice QCD
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323. R. Lang, N. Kaiser, W. Weise
Shear viscosity of a hot pion gas
Eur. Phys. J. **A 48** (2012) 109
324. J.W. Holt, N. Kaiser, W. Weise
Chiral Fermi liquid approach to neutron matter
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325. N. Bratovich, T. Hatsuda, W. Weise
Role of vector interaction and axial anomaly in the PNJL modeling
of the QCD phase diagram
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326. S. Imai, H. Toki, W. Weise
Quark-hadron matter at finite temperature and density in a
two-color PNJL model
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327. T. Hell, K. Kashiwa, W. Weise
Impact of vector-current interactions on the QCD phase diagram
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328. Y. Ikeda, T. Hyodo, W. Weise
Improved threshold constraints on coupled-channels chiral SU(3) dynamics
from kaonic hydrogen
Few-Body Syst. **54** (2013) 1113
329. M. Drews, T. Hell, B. Klein, W. Weise
Thermodynamics phases and mesonic fluctuations in a chiral
nucleon-meson model
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330. J.W. Holt, N. Kaiser, G.A. Miller, W.Weise
Microscopic optical potential from chiral nuclear forces
Phys. Rev. C **88** (2013) 024614
331. J. Haidenbauer, S. Petschauer, N. Kaiser, U.-G. Meißner, A. Nogga, W.Weise
Hyperon-nucleon interaction at next-to-leading order in
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332. J.W. Holt, N. Kaiser, W.Weise
Nuclear chiral dynamics and thermodynamics
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333. M. Altenbuchinger, L.-S. Geng, W.Weise
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334. E. Hiyama, Y. Funaki, N. Kaiser, W.Weise
Alpha-clustered hypernuclei and chiral SU(3) dynamics
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336. T. Hell, B. Röttgers, W.Weise
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338. M. Drews, T. Hell, B. Klein, W.Weise
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339. C. Wellenhofer, J.W. Holt, N. Kaiser, W.Weise
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340. T. Hell, W.Weise
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341. S. Ohnishi, Y. Ikeda, T. Hyodo, E. Hiyama, W.Weise
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342. M. Drews, W.Weise
Functional renormalization group approach to neutron matter
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344. W.Weise
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345. J.W. Holt, M. Rho, W.Weise
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346. D. Satow, W.Weise
Chiral symmetry breaking and confinement effects on dilepton and
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347. R. Lang, N. Kaiser, W.Weise
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348. P. Gubler, W.Weise
Moments of phi meson spectral functions in vacuum and nuclear matter
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351. S. Ohnishi, Y. Ikeda, T. Hyodo, W. Weise
Structure of the $\Lambda(1405)$ and the $K^-d \rightarrow \pi\Sigma n$ reaction
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352. P. Gubler, W. Weise
Phi meson spectral moments and QCD condensates in nuclear matter
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353. Y. Kamija, K. Miyahara, S. Ohnishi, Y. Ikeda, T. Hyodo, E. Oset, W. Weise
Antikaon-nucleon interaction and $\Lambda(1405)$ in chiral SU(3) dynamics
Nucl. Phys. **A954** (2016) 41
354. S. Petschauer, J. Haidenbauer, N. Kaiser, U.-G. Meißner, W. Weise
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355. M. Drews, W. Weise
Functional renormalisation group studies nuclear and neutron matter
Prog. Part. Nucl. Phys. **93** (2017) 69
356. J. Haidenbauer, U.-G. Meißner, N. Kaiser, W. Weise
Lambda-nuclear interactions and hyperon puzzle in neutron stars
Eur. Phys. J. **A53** (2017) 121
357. T. Hoshino, S. Ohnishi, W. Horiuchi, T. Hyodo, W. Weise
Constraining the Kbar-N interaction from the 1S level shift of kaonic deuterium
Phys. Rev. **C96** (2017) 045204
358. J. Haidenbauer, S. Petschauer, N. Kaiser, U.-G. Meißner, W. Weise
Scattering of decuplet baryons in chiral effective field theory
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359. W. Horiuchi, T. Hyodo, W. Weise
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360. K. Miyahara, T. Hyodo, W. Weise
Construction of a local KbarN - PiSigma - PiLambda potential and composition of the Lambda(1405)
Phys. Rev. **C98** (2018) 025201
361. W. Weise
From QCD symmetries to nuclei and neutron stars
Int. J. Mod. Phys. **E27** (2018) 1840004