

研究業績 藤田丈久

1. Meson exchange effects on the deuteron magnetic moment
Y. Horikawa, T. Fujita and K. Yazaki
Phys. Lett. **42B** (1972) 173–176
November
重陽子の磁気能率に対する中間子交換効果
2. The isoscalar part of the exchange magnetic moment
T. Fujita, Y. Horikawa and K. Yazaki
Journal Phys. Soc. Japan **34** (1973) 503–508 March
中間子交換磁気能率のアイソスカラー部
3. On a new relation between magnetic hyperfine structure constants for the $1s_{\frac{1}{2}}$ and $2p_{\frac{1}{2}}$ muonic orbits
T. Fujita and A. Arima
Phys. Lett. **49B** (1974) 143–146
April
 $1s_{\frac{1}{2}}$ と $2p_{\frac{1}{2}}$ ミューオン軌道の磁気超微細構造定数間の新しい関係
4. Magnetic hyperfine structure of muonic and electronic atoms
T. Fujita and A. Arima
Nucl. Phys. **A254** (1975) 513–541
December
ミューオンと電子の磁氣的超微細構造定数
5. The second order electric dipole and quadrupole effects on the $2p_{\frac{1}{2}}$ hyperfine structure constant in muonic atoms
T. Fujita and A. Arima
Nucl. Phys. **A267** (1976) 461–471
August
 $2p_{\frac{1}{2}}$ ミューオン軌道の磁氣的超微細構造定数に対する二次の電気双極子と四重極効果

6. Optical model analysis of \bar{p} -atoms
H. Nishimura and T. Fujita
Phys. Lett. **60B** (1976) 413–416
February
 \bar{p} - 原子の光学模型解析
7. Possible existence of a deeply bound Δ - Δ system
T. Kamae and T. Fujita
Phys. Rev. Lett. **38** (1977) 471–475
February
深い Δ - Δ 束縛状態の存在
8. Strange Giant Resonance in (K^-, π^-) reaction
N.Hoshi and T. Fujita
Z. Phys. **A283** (1977) 63–66
 (K^-, π^-) 反応奇妙巨大共鳴
9. Correlated cluster and inclusive spectra of energetic protons at 180° in proton nucleus collisions
T. Fujita
Phys. Rev. Lett. **39** (1977) 174–177
July
陽子 – 原子核衝突 180° における相関クラスターとエネルギー陽子の包含スペクトル
10. Backward-pick-up reaction for inclusive spectra of energetic deuteron at 180° in proton nucleus collisions
T. Fujita
Phys. Lett. **72B** (1977) 16–20
December
陽子-原子核衝突 180° におけるエネルギー重陽子の包含スペクトルに対する後方ピックアップ反応
11. Correlated nucleons in inclusive backward proton nucleus collisions at intermediate energies
T. Fujita and J. Hüfner

Nucl. Phys. **A314** (1979) 317–332

February

中間エネルギー包含後方陽子-原子核衝突における相関核子

12. Cluster representation of proton nucleus inclusive collisions with very large momentum transfer

T. Fujita

Nucl. Phys. **A324** (1979) 409–419

August

非常に大きな運動量移行の包含陽子-原子核衝突のクラスター表示

13. Inclusive hadron nucleus scattering at high energy

T. Fujita and J. Hüfner

Phys. Lett. **87B** (1979) 327–331

November

高エネルギー包含ハドロン原子核散乱

14. Momentum distribution after fragmentation in nucleus nucleus collisions at high energy

T. Fujita and J. Hüfner

Nucl. Phys. **A343** (1980) 493–510

July

高エネルギー原子核-原子核散乱における破砕後の運動量分布

15. Target fragmentation in hadron nucleus collisions at high energy

H. Araseki and T. Fujita

Nucl. Phys. **A399** (1983) 434–450

May

高エネルギー包含ハドロン原子核衝突の標的破砕

16. Energetic neutrons from muon capture by heavy nucleus

T. Fujita and K. Kubodera

Phys. Lett. **149B** (1984) 451–454

December

重い原子核の μ 中間子吸収による速い中性子

17. Deep inelastic lepton nucleus scattering at very high energy:
high momentum component, EMC effect and scaling violation
H. Araseki and T. Fujita
Nucl. Phys. **A439** (1985) 681–694
June
高エネルギーの深部非弾性レプトン-原子核散乱: 高運動量成分、EMC 効果、スケーリングの破れ
18. Problem of backward proton production
Y. Haneishi and T. Fujita
Phys. Rev. **C33** (1986) 260–274
January
後方陽子生成の問題
19. Fragmentation of the nucleus at high energy
Y. Shibata and T. Fujita
Phys. Lett. **172B** (1986) 283–286
May
高エネルギーにおける原子核破碎

20. Theory of inclusive nuclear reactions:
High momentum component vs short range correlation
T. Fujita
Nucl. Phys. **A457** (1986) 657–668
September
包含原子核反応の理論: 高運動量成分対短距離相関
21. Backward production of protons in proton nucleus collisions at low and intermediate energy
Y. Haneishi and T. Fujita
Phys. Rev. **C35** (1987) 70–75
January
低及び中間エネルギーの陽子-原子核散乱における後方陽子生成
22. Hadron production at forward angles in proton nucleus collisions at high energy
K. Houtatsu and T. Fujita
Prog. Theor. Phys. **77** (1987) 391–402
高エネルギーにおける陽子-原子核衝突の前方ハドロン生成
23. A simple analytical solution of the Dirac equation with a scalar linear potential
S. Abe and T. Fujita
Nucl. Phys. **A475** (1987) 657–662
December
スカラー線形ポテンシャルの Dirac 方程式の単純解析解
24. A comment on the DeGrand-Miettinen model for the polarization of lambda in proton nucleus collisions
T. Fujita and T. Matsuyama
Phys. Rev. **D38** (1988) 401–402
July
陽子-原子核衝突の Λ の偏極に対する DeGrand-Miettinen 模型へのコメント
25. Quark fragmentation function in the Schwinger model
T. Fujita and J. Hüfner

Phys. Rev. **D40** (1989) 604–606

July

Schwinger 模型のクォーク破砕関数

26. A model for polarization of Λ in inclusive proton proton collisions at high energy

T. Fujita and N. Suzuki

Nucl. Phys. **A503** (1989) 899–910

October

高エネルギーにおける包含陽子-原子核衝突の Λ の偏極模型

27. Analytic bound state spectrum of massive Thirring model

A. Ogura and T. Fujita

Prog. Theor. Phys. **89** (1993) 23–36

質量のある Thirring 模型の解析的束縛状態のスペクトル

28. Fermion condensate and the spectrum of massive Schwinger model in Bogoliubov transformed vacuum

T. Tomachi and T. Fujita

Annals of Phys. **223** (1993) 197–215

フェルミオン凝縮と Bogoliubov 変換した真空による質量のある Schwinger 模型のスペクトル

29. Bound state spectrum of $SU(2)$ massive Thirring model

T. Fujita, C. Itoi, A. Ogura and M. Taki

Journal of Physics **G20** (1994) 1143–1157

有限質量 $SU(2)$ Thirring 模型の束縛状態のスペクトル

30. QED_2 and massive Thirring model in infinite momentum frame

A. Ogura, T. Fujita and T. Tomachi

Annals of Phys. **237** (1995) 12–45

無限運動量空間における QED_2 と有限質量 Thirring 模型

31. Bound state spectrum of $SU(N)$ massive Gross-Neveu model

T. Fujita and T. Sekiguchi

Prog. Theor. Phys. **93** (1995) 151–160

有限質量 $SU(N)$ Gross-Neveu 模型の束縛状態スペクトル

32. A new interpretation of Bethe ansatz solutions for massive Thirring model
 T. Fujita, Y. Sekiguchi and K. Yamamoto
 Annals of Phys. **255** (1997) 204–227
 有限質量 Thirring 模型に対するベ-テ仮設解の新解釈
33. Hyperfine structure constants for Eu isotopes:
 Is the empirical formula of hfs anomaly universal ?
 T. Asaga, K. Ito and T. Fujita
 Z. für Physik, **A359** (1997) 237–242
 Eu - 原子核に対する超微細構造定数
34. Reexamination of standard solar model to the solar neutrino problems
 K. Fukasaku and T. Fujita
 Prog. Theor. Phys. **98** (1997) 1251–1259
 太陽ニュートリノ問題に対する標準模型の検証
35. g-factor of a tightly bound electron
 T. Asaga, T. Fujita and M. Hiramoto
 Phys. Rev. **A57** (1998) 4974–4975
 June
 深い束縛状態電子の g - 因子
36. Finite size corrections in massive Thirring model
 T. Fujita and H. Takahashi
 Phys. Rev. **D58** (1998) 085011 – 1 – 4
 September
 有限質量 Thirring 模型における有限サイズ効果
37. Violation of S-matrix factorization in massive Thirring model
 T. Fujita and M. Hiramoto
 Phys. Rev. **D58** (1998) 125019 – 1 – 10
 November
 有限質量 Thirring 模型における S - 行列因子化の破れ
38. Hyperfine anomaly of Be isotopes and large anomaly in ^{11}Be
 T. Fujita, K. Ito and T. Suzuki
 Phys. Rev. **C59** (1999) 210 – 214
 January
 Be アイソトープの超微細構造定数異常と ^{11}Be の異常に大きな超微細構造定数異常

39. Strong coupling limit of Bethe ansatz solutions in massive Thirring model
 T. Fujita, T. Kake and H. Takahashi
 Annals of Physics **282** (2000) 100-114
 有限質量 Thirring 模型における Bethe 仮設解の強結合極限
40. EDM operator free from Schiff's Theorem
 T. Asaga, T. Fujita and M. Hiramoto
 Prog. Theor. Phys. **106** (2001) 1223-1238
 Schiff の定理によらない EDM 演算子
41. Bound state spectrum of massive Thirring model in rest frame
 M. Hiramoto and T. Fujita
 Phys. Rev. **D66** (2002) 045007
 August
 静止系での有限質量 Thirring 模型における束縛状態スペクトル
42. Large N behavior of string solutions in the Heisenberg model
 T. Fujita, T. Kobayashi and H. Takahashi
 J. Phys. **A36** (2003) 1553 – 1564
 Heisenberg 模型におけるストリング解の大 N の振る舞い
43. Comment on "The massive Thirring model from XYZ spin chain" by Kolanovic et al.
 T. Fujita, T. Kobayashi and H. Takahashi
 Phys. Rev. **D 68** (2003) 068701
 September
 「Kolanovic 達の XYZ スピン連鎖による有限質量 Thirring 模型」に対するコメント
44. Non-equivalence between Heisenberg XXZ spin chain and Thirring model
 T. Fujita, T. Kobayashi, H. Takahashi and M. Hiramoto
 Eur. Phys. J. **C39** (2005) 511 – 518
 Heisenberg XXZ スピン鎖と Thirring 模型の非同等性
45. New vacuum of Bethe ansatz solutions in Thirring model
 T. Fujita, M. Hiramoto, T. Homma and H. Takahashi
 J. Phys. Soc. Jpn. **74** (2005) 1143 – 1149
 April
 Thirring 模型における Bethe 仮設解の新しい真空

46. Nucleon EDM from atomic systems and constraints on supersymmetry parameter
S. Oshima, T. Nihei and T. Fujita
J. Phys. Soc. Jpn. **74** (2005) 2480 – 2490
September
原子系による核子の EDM と SUSY パラメータに対する制限
47. Nuclear electric dipole moment with relativistic effects in Xe and Hg atoms
S. Oshima, T. Fujita and T. Asaga
Phys. Rev. **C75** (2007) 035501
March
Xe と Hg 原子における相対論的效果による電気双極子能率
48. Higgs Mechanism and New Propagator of Massive Vector Bosons
T. Fujita, N. Kanda and H. Tsuda
J. Mod. Phys. **3** (2012) 619
Higgs 機構と新しい伝播関数
July
49. Electric dipole moment of neutron-odd nucleus
T. Fujita and S. Oshima
J. Phys. **39** (2012) 095106
奇中性子核の電気双極子能率
July
50. No Anomaly and New Renormalization Scheme
T. Fujita and N. Kanda
J. Mod. Phys. **3** (2012) 665
アノマリーの非存在と新しい繰り込み形式
August

Review articles

1. Boson after symmetry breaking in quantum field theory
T. Fujita, M. Hiramoto, and H. Takahashi
Focus on Boson Research (Nova Science Publishers, Inc, 2006), p.1–p.56
量子場の理論における対称性の破れの後のボソン
2. Physical observables in gauge field theory
T. Fujita
in *New Fundamentals in Fields and Particles*, ed. by T. Fujita,
Transworld Research Network (2009), p.1–p.20
ゲージ場の理論における物理的観測量
3. Physical observables in path integral formulation
T. Fujita
in *New Fundamentals in Fields and Particles*, ed. by T. Fujita,
Transworld Research Network (2009), p.31–p.45
経路積分における物理的観測量
4. Problems of scalar bosons
S. Kanemaki, A. Kusaka, S. Oshima and T. Fujita
in *New Fundamentals in Fields and Particles*, ed. by T. Fujita,
Transworld Research Network (2009), p.47–p.60
スカラーボソンの問題点

Textbooks

1. Fundamental Problems in Quantum Field Theory
Takehisa Fujita and Naohiro Kanda
Bentham Publishers, Inc, 2013
量子場の理論における基礎問題
2. Symmetry and Its Breaking in Quantum Field Theory
Takehisa Fujita
Nova Science Publishers, Inc, 2011 (Second Edition)
量子場の理論における対称性とその破れ
3. Bosons after Symmetry Breaking in Quantum Field Theory
Takehisa Fujita, Makoto Hiramoto and Hidenori Takahashi
Nova Science Publishers, Inc, 2009
量子場の理論における対称性の破れ後のボソン

Preprints

1. No massless boson in chiral symmetry breaking in NJL and Thirring models
M. Hiramoto and T. Fujita
hep-th/0306083
NJL と Thirring 模型におけるカイラル対称性の破れでの無質量ボソンの非存在
2. New spectrum and condensate in two dimensional QCD
T. Fujita, M. Hiramoto and T. Homma
hep-th/0306085
2次元 QCD における新しいスペクトルと凝縮
3. No Goldstone boson in NJL and Thirring models
T. Fujita, M. Hiramoto and H. Takahashi
hep-th/0306110
NJL と Thirring 模型では Goldstone ボソンは存在しない
4. No area law in QCD
T. Asaga and T. Fujita
hep-th/0511172
QCD の面積則は存在しない
5. Re-interpretation of spontaneous symmetry breaking in quantum field theory
T. Fujita, M. Hiramoto, T. Homma, M. Matsumoto and H. Takahashi
hep-th/0510151
6. Gauge Non-invariance of Quark-quark Interactions
T. Fujita, S. Kanemaki and S. Oshima
hep-ph/0511326
クォーク - クォーク相互作用のゲージ依存性
7. Mystery of Real Scalar Klein-Gordon Field
T. Fujita, S. Kanemaki, A. Kusaka, S. Oshima
physics/0610268
実スカラーボソンの不思議
8. Physics of Renormalization Group Equation in QED
T. Fujita
hep-th/0606101
QED における繰り込み群の物理

9. Critical Review of Path Integral Formulation
T. Fujita
hep-th/0801.1933
経路積分の批判的概観
10. Quantum Gravity without General Relativity
Takehisa Fujita
physics.gen-ph/0804.2518
一般相対論によらない量子重力
11. New Renormalization Scheme of Vacuum Polarization in QED
T. Fujita, N. Kanda, H. Kato, H. Kubo, Y. Munakata, S. Oshima and K. Tsuda
arXiv:0901.3421
QED における真空偏極の新しい繰り込み形式
12. Novel Solution of Mercury Perihelion Shift
Takehisa Fujita and Naohiro Kanda
physics.gen-ph/0911.2086
水星の近日点移動の新しい解釈
13. Physics of Leap Second
Takehisa Fujita and Naohiro Kanda
physics.gen-ph/0911.2087
うるう秒の物理
14. A New Relation between Lamb Shift Energies
H. Kubo, T. Fujita, N. Kanda, H. Kato, Y. Munakata, S. Oshima and K. Tsuda
quant-ph/1003.5050
Lamb シフトエネルギー間の新しい関係式
15. Tomonaga's Conjecture on Photon Self-Energy
T. Fujita and N. Kanda
physics.gen-ph/1102.2974
朝永の推論
16. Z^0 decay into two photons
N. Kanda, R. Abe, T. Fujita and H. Tsuda
arXiv:1109.0926v1 [hep-ph]
Z ボソンの 2 フォトン崩壊

17. A Proposal to Measure Photon-Photon Scattering

Takehisa Fujita and Naohiro Kanda

e-Print: arXiv:1106.0465 [hep-ph]

光子 光子散乱測定の提案

18. Nuclear Potential with Two Pion Exchange

Takehisa Fujita, Naohiro Kanda and Sachiko Oshima

arXiv:1209.3067 [nucl-th]

2 交換力

Conference Proceedings

1. Magnetic hyperfine structures in muonic atoms
Proc. Int. Conf. on nuclear structure and spectroscopy, Amsterdam (1974)
(A. Arima)
 μ 中間子の磁気超微細構造定数
2. Coincidence spectra between backward and forward going protons
Proc. of the 6th Balaton Conf. on Nuclear Physics, 1983, ed. J. Ero
(Y. Haneishi)
前方と後方陽子の同時スペクトル
3. The problem of backward proton production
Proc. of 1983 INS Int. Sympo. on High Energy Photon-Nuclear Reaction
and Related Topics, ed. S. Homma et al.
(Y. Haneishi)
後方陽子生成の問題
4. The polarization of lambda in proton proton collisions at high energy
Proc. of Int. Sympo. on Medium Energy Physics, Beijing, 1987, ed. Chiang
et al.
(T. Matsuyama)
高エネルギーにおける包含陽子-陽子衝突における Λ の偏極
5. A model for polarization of Λ in proton proton collisions at high energy
Proc. of IX Int. Seminar on High Energy Physics Problems, 1988, Dubna
(N. Suzuki)
高エネルギーにおける包含陽子-陽子衝突における Λ の偏極模型
6. A new computational method to solve field theory: Application to the mas-
sive Schwinger model
Proc. of X Int. Seminar on High Energy Physics Problems, 1990, Dubna,
ed. Burov et al.
(T. Tomachi)
場の理論を解く新しい数値法 : 質量のある Schwinger 模型への応用

7. QED₂ and massive Thirring model in 1+1 dimension
Proc. International School Seminar on Relativistic Nuclear Dynamics, 1991,
Vladivostok, ed. Reznik et al.
1+1 次元における QED₂ と有限質量 Thirring 模型
8. Analytic bound state spectrum of massive Thirring model
Proc. of XI Int. Seminar on High Energy Physics Problems, 1992, Dubna,
ed. Burov et al.
(A. Ogura)
有限質量 Thirring 模型の解析的束縛状態スペクトル
9. Bound states of 1+1 dimensional field theories
Proc. of XIII Int. Seminar on High Energy Physics Problems, 1996, Dubna,
ed. Burov et al.
(M. Hiramoto, H. Takahashi)
10. Reexamination of standard solar model to the solar neutrino problems
Proc. of Origin of matter and evolution of galaxis, 1998, Atami
(K. Fukasaku)
太陽ニュートリノ問題に対する標準模型の検証