

Balaban, T.; Gawędzki, K.

A low temperature expansion for the pseudoscalar Yukawa model of quantum fields in two space-time dimensions. (English) [Zbl 0509.46059](#)

Ann. Inst. Henri Poincaré, Nouv. Sér., Sect. A 36, 271-400 (1982).

For a scan of this review see the [web version](#).

MSC:

- 46N99 Miscellaneous applications of functional analysis
- 46F05 Topological linear spaces of test functions, distributions and ultradistributions
- 81T08 Constructive quantum field theory

Cited in **12** Documents

Keywords:

phase transition; Wightman axioms; pseudo-scalar Yukawa model; Schwinger functions; Osterwalder-Schrader axioms

Full Text: [Numdam](#) [EuDML](#)

References:

- [1] J. Bricmont, J.R. Fontaine, L. Landau, Absence of Symmetry Breakdown and Uniqueness of the Vacuum for Multicomponent Field Theories, *Commun. in Math. Phys.*, t. 64, 1978, p. 49 - 72. Article | MR 516996 · [minidml.mathdoc.fr](#)
- [2] F. Constantinescu, H.M. Ruck, Phase Transitions in a Continuous Three States Model With Discrete Gauge Symmetry, *Ann. Phys.*, t. 115, 1978, p. 474 - 495. MR 513893 | Zbl 0409.60095 · Zbl 0409.60095 · doi:10.1016/0003-4916(78)90165-3
- [3] A. Cooper, L. Rosen, The Weakly Coupled Yukawa2 Field Theory: Cluster expansion and Wightman Axioms, *Transactions of the American Mathematical Society*, t. 234, 1977, p. 1 - 88. MR 468872
- [4] J. Fröhlich, Phase Transitions, Goldstone Bosons and Topological Superselection Rules, *Acta Physica Austriaca*, Suppl. XV, 1976, p. 133 - 269. MR 523547
- [5] J. Fröhlich, B. Simon, T. Spencer, Infrared Bounds, Phase Transitions and Continuous Symmetry Breaking, *Commun. In Math. Phys.*, t. 50, 1976, p. 79 - 85. Article | MR 421531 · [minidml.mathdoc.fr](#)
- [6] J. Fröhlich, T. Spencer, Phase Transitions in Statistical Mechanics and Quantum Field Theory, in *New Developments in Quantum Field Theory and Statistical Mechanics*. Cargèse, 1976, edited by M. Lévy and P. Mitter, p. 79 - 130. MR 508189
- [7] K. Gawędzki, Existence of Three Phases for a $P(\varphi)_2$ Model of Quantum Field, *Commun. in Math. Phys.*, t. 59, 1978, p. 117 - 142. Article | MR 479177 · [minidml.mathdoc.fr](#)
- [8] B. Gidas, The Glimm-Jaffe-Spencer Expansion for the Classical Boundary Conditions and Coexistence of Phases in the Euclidean (Quantum) Field Theory, *Ann. Phys.*, t. 118, 1979, p. 18 - 83. MR 530596 | Zbl 0396.35080 · Zbl 0396.35080 · doi:10.1016/0003-4916(79)90234-3
- [9] J. Glimm, A. Jaffe, Positivity of the φ^4_3 Hamiltonian, *Fortschritte der Physik*, t. 21, 1973, p. 327 - 376. MR 408581
- [10] J. Glimm, A. Jaffe, T. Spencer, The Wightman axioms and particle structure in the $P(\varphi)_2$ quantum field model, *Ann. Math.*, t. 100, 1974, p. 585 - 632. MR 363256
- [11] J. Glimm, A. Jaffe, T. Spencer, The Particle Structure of the Weakly Coupled $P(\varphi)_2$ Model and Other Applications of High Temperature Expansions. Part II: The Cluster Expansion, in *Constructive Quantum Field Theory*, *Lecture Notes in Physics*, t. 25, edited by G. Velo and A. Wightman, 1973, p. 199 - 242. MR 395513
- [12] J. Glimm, A. Jaffe, T. Spencer, Phase Transitions for Quantum Fields, *Commun. in Math. Phys.*, t. 45, 1975, p. 203 - 216. Article | MR 391797 | Zbl 0956.82501 · Zbl 0956.82501 · doi:10.1007/BF01608328 · [minidml.mathdoc.fr](#)
- [13] J. Glimm, A. Jaffe, T. Spencer, A Convergent Expansion about Mean Field Theory. *Ann. Phys.*, t. 101, 1976, p. 610 - 669.
- [14] F. Guerra, L. Rosen, B. Simon, Boundary Conditions for the $P(\varphi)_2$ Euclidean Field Theory, *Ann. Inst. Henri Poincaré*, t. 25, 1976, p. 231 - 334. Numdam | MR 441150 · [numdam:AIHPA_1976__25_3_231_0](#)
- [15] H. Kunz, B. Souillard, Private communication through J. Magnen and R. Sénéor.
- [16] J. Magnen, R. Sénéor, The Wightman Axioms for the Weakly Coupled Yukawa Model in Two Dimensions, *Commun. in Math. Phys.*, t. 51, 1976, p. 297 - 313. Article | MR 434224 · [minidml.mathdoc.fr](#)

- [17] O. McBryan , Finite Mass Renormalization in the Euclidean Yukawa² Field Theory , Commun. in Math. Phys. , t. 44 , 1975 , p. 237 - 244 . Article | MR 398351 · minidml.mathdoc.fr
- [18] O. McBryan , Volume Dependence of Schwinger Functions in the Yukawa² Quantum Field Theory , Commun. in Math. Phys. , t. 45 , 1975 , p. 279 - 294 . Article | MR 389075 · minidml.mathdoc.fr
- [19] K. Osterwalder , R. Schrader , Axioms for Euclidean Green's Functions , I. Commun. in Math. Phys. , t. 31 , 1973 , p. 83 - 112 . II. Commun. in Math. Phys. , t. 42 , 1975 , p. 281 - 305 . Article | Zbl 0274.46047 · [Zbl 0274.46047](https://zbmath.org/journals/Zbl/0274.46047) · [doi:10.1007/BF01645738](https://doi.org/10.1007/BF01645738) · minidml.mathdoc.fr
- [20] S.A. Pirogov , Ja. G. Sinal , Ground States in Two-Dimensional Boson Quantum Field-Theory , Ann. Phys. , t. 109 , 1977 , p. 393 - 400 . MR 495987
- [21] P. Renouard , Analyticité et Sommabilité de Borel des Fonctions de Schwinger du Modèle de Yukawa en Dimension $d = 2$. I . Approximation à Volume Fini, Ann. Inst. Henri Poincaré , t. 27 , 1977 , p. 237 - 277 . Numdam | MR 479176 · [numdam:AIHPA_1977__27_3_237_0](https://numdam.org/AIHPA_1977__27_3_237_0)
- [22] P. Renouard , private communication .
- [23] E. Seiler , Schwinger Functions for the Yukawa Model in Two Dimensions with Space-Time Cutoff , Commun. in Math. Phys. , t. 42 , 1975 , p. 163 - 182 . Article | MR 376022 · minidml.mathdoc.fr
- [24] E. Seiler , B. Simon , On Finite Mass Renormalizations in the Two-Dimensional Yukawa Model , J. Math. Phys. , t. 16 , 1975 , p. 2289 - 2293 . MR 403484
- [25] E. Seiler , B. Simon , Bounds in the Yukawa² Quantum Field Theory: Upper Bound on the Pressure, Hamiltonian Bound and Linear Lower Bound , Commun. in Math. Phys. , t. 45 , 1975 , p. 99 - 114 . Article | MR 413886 · minidml.mathdoc.fr
- [26] E. Seiler , B. Simon , Nelson's Symmetry and All That in the Yukawa² and $(\varphi^4)_3$ Field Theories , Ann. Phys. , t. 97 , 1976 , p. 470 - 518 . MR 438960
- [27] B. Simon , Notes on Infinite Determinants of Hilbert Space Operators , Advances in Mathematics , t. 24 , 1977 , p. 244 - 273 . MR 482328 | Zbl 0353.47008 · [Zbl 0353.47008](https://zbmath.org/journals/Zbl/0353.47008) · [doi:10.1016/S0001-8708\(77\)80044-3](https://doi.org/10.1016/S0001-8708(77)80044-3)
- [28] B. Simon , The $P(\varphi)_2$ Euclidean (Quantum) Field Theory, Princeton Series in Physics , Princeton , New Jersey , 1974 . MR 489552

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.