---------- Lattice gauge theory [11,12,13] ----------

Order parameters in a modified lattice gauge theory
J Polchinski - Physical Review D 25 (1982) 3325

Abstract

"**Mack and Petkova** and Yaffe have recently **considered a modified lattice gauge theory,** in which the 't Hooft operator has an unexpected area law and is not complementary to the Wilson loop operator. We find that ..."

Topics on gauge theories
S Sarantakos - 1984 (PhD thesis, New York Univ.)

Abstract

... In addition the author studied by Monte Carlo methods the behavior of non-abelian
magnetic fields at high temperatures in the **Mack and Petkova modified SU(2) lattice gauge theory** which does not contain dynamical magnetic monopoles.

Non-Abelian magnetic flux at high temperatures
G Lazarides, S Sarantakos – Phys. Rev. D,31 (1985) 389

Abstract

We study by Monte Carlo methods the behavior of non-Abelian magnetic fields at high temperatures in the **Mack-Petkova modified SU(2) lattice gauge theory** which does not contain dynamical magnetic monopoles. Our results indicate that magnetic screening at high temperatures is a genuine phenomenon which survives in the continuum limit and is not an artifact of the standard Wilson lattice gauge theory caused by the artificial dynamical magnetic monopoles contained in this theory.

Three-dimensional Z (N) lattice gauge models at large N
P Mitra - Nuclear Physics B 210 (1982) 125

.”.. The inequality **derived by Mack and Petkova** [8] for the quarkantiquark potential V (L) says that….”

Some comments on the crossover between strong and weak coupling in SU (2) pure Yang-Mills theory
J Fröhlich - Physics Reports 67 (1980) 137
“These results are rigorous for lattice gauge theories. (iii) **Mack and Petkova** have shown [10] that condensation of vortices (ie the probability that gauge field configurations,
g, contain vortices is large and essentially independent of their length “

Confinement in Z n lattice gauge theories implies confinement in SU (n) lattice Higgs theories
J Fröhlich – Phys. Lett. B 83 (1979) 195
“The main result is the one described in the abstract, special cases of which were first proven in **two beautiful papers** of Mack [1] and **Mack and Petkova** [2] **...”**

Confinement in SU (N) lattice gauge theories
LG Yaffe - Physical Review D 21 (1980) 1574
“This paper was largely **motivated by recent work of Mack and Petkova** and may be considered as an extension and explanation of their results. **...”**

Generalised actions for lattice gauge models
RC Edgar - Nuclear Physics B 200 (1982) 345
“... Following the ideas of **Mack and Petkova**, it is tempting to speculate that the transitions in
the two models are related to the behaviour of extended field configurations of different sizes”

Inequalities for magnetic-flux free energies and confinement in lattice gauge theories
T Yoneya - Nuclear Physics B 205 (1982) 130
.”.. An **important rigorous result** in lattice gauge theories was **independently obtained by Mack and**

Petkova [5] who established that the confinement in general follows if the free energy of the vortex
produced by the center transformation decreases exponentially with the diameter of **...”**

Dynamics of SU (2) lattice gauge theories
RC Brower, DA Kessler, H Levine - Nuclear Physics B 205 (1982) 77
“… we have **the model suggested by Mack and Petkova** [9] (MP) with all monopoles eliminated, leaving
only vortices”

The Structure of the Vacuum. II
Y IWASAKI – **Prog. Theor. Phys. Vol. 68 No. 3 (1982) pp. 898-911**
We call a cube for which p{c)— ~1 a Z(2) monopole, **following Mack and Petkova**.

Transition from strong to weak coupling in SU (N) lattice gauge theories
Y Iwasaki - Physics Letters B 100 (1981) 327
“... We can state the main assumption in a different
form as follows: **Mack and Petkova showed** [9] that the SU(2) lattice gauge theories may be considered as a Z(2) model with fluctuating coupling constants and Z(2) monopoles. **...”**

On the characterization of the higgs phase in lattice gauge theories
G Münster - Zeitschrift für Physik C Particles and Fields, 6 (1980) 175
.”.. Recent work of **Mack and Petkova** [6] and of 't Hooft [7] **suggests to classify** the phases of pure
lattice gauge theories by the dependence of the free energy of a system in a box or vortex container on certain boundary conditions”

Feynman's variational principle for a polaron in a magnetic field

SN Gorshkov, AV Zabrodin, C Rodriguez… - Theor. Math. Phys. 62 (1985) 205
.”.. To complete the definition of the theory, we need to define not only the action but also the measure of integration. **Following Mack and Petkova** [2], we do not define the measure simply as the product of the **...”**

An investigation of Z (2) vortices in SU (2) 3
RD Mawhinney - Nuclear Physics B 321 (1989) 653
“... theory. **Mack and Petkova** [6] **have given a method** for including the effects of Z(N) vortices on the Wilson loop expectation value. “

Is QCD an asymptotically free theory?
A Patrascioiu, E Seiler - Les Rencontres de Physique de la Vallée …, 1990 - books.google.com
“Model (a) **is inspired by** the **Mack and Petkova** modification of the Yang **...”**

May vortices produce a mass gap in 2D spin models at weak coupling
O Borisenko, P Skala - arXiv preprint hep-lat/9812020,
“The second approach is based on the similarities between lattice QCD and 2D non-Abelian spin models where, while not so close to the continuum, one can give precise mathematical definitions to all quantities involved. Following the latter idea, **Mack and Petkova** [1] formulated a condition which could be called confinement mechanism by a vortex condensate…. Our derivation **follows closely** the one of the corresponding condition in LGT by **Mack and Petkov**a [1]…. SU(2) principal chiral model. Following the original idea of **Mack and Petkova [1]** for 4D non- Abelian gauge theories we formulate a sufficient condition for the MG to be non-vanishing.”

Vortex condensation and mass gap generation in two-dimensional principal chiral models

O Borisenko, P Skala - Physical Review D 62 (2000) 014502
"... **Mack and Petkova** 1 formulated a condition which could be called confinement mechanism by a vortex condensate"

Free energy of an SU (2) monopole-antimonopole pair
C Hoelbling, C Rebbi, VA Rubakov – Phys. Rev. D 63 (2001) 034506
"... The procedure for introducing SU(N) monopole sources on the lattice was devised by Ukawa, Windey, and Guth 13 and Srednicki and Susskind 14, **who built on earlier seminal results** by 't Hooft 15, **Mack and Petkova** 16,17, and Yaffe 18. **..."**

Further discussion of Tomboulis' approach to the confinement problem
KR Ito, E Seiler - arXiv preprint arXiv:0803.3019
... The **original idea** to study vortex free energies in order to understand confinement was **formulated by Mack and Petkova** in [9].

Phenomenological model of the weak interaction
FE Schunck - arXiv preprint arXiv:0809.3592
Following **Mack and Petkova** [16], quarks can be de- scribed by condensed vortices. **...**

Generalizing the Tomboulis–Yaffe inequality to SU (N) lattice gauge theories and general classical spin systems
T Kanazawa - Annals of Physics 324 (2009) 1634
"... Such an idea was imported into the studies of SU(N) gauge theories **ingeniously by** 't Hooft [5], **Mack and Petkova** [6] and several others [7]. **…** However, according to the scenario(s) **pioneered by** 't Hooft, **Mack, Petkova** and others [7], the rapid decay of a Wilson loop expectation value might be attributable to a percolation of center vortices…**Mack and Petkova formulated** a center vortex contained in a torus of finite diameter with a fixed boundary condition on the surface ….What **Mack and Petkova achieved**

is to prove an inequality rigorously, whose intuitive interpretation being that the area-law decay of the Wilson loop expectation value would follow if the free energy of such a 'thick' vortex decreases sufficiently rapidly when its diameter is increased. "

TOPOLOGY, CENTER VORTICES, CONFINEMENT AND CHIRAL SYMMETRY BREAKING IN SU (2) LATTICE QCD
M Faber, G Jordan, R Höllwieser , Proc. Int. School –seminar, "New physics and Quantum Chromodynamics at External Conditions", pp.27-37. (2007)
"The vortex model was **first proposed** by't Hooft [7], **Mack and Petkova** [8] and [9]. "

----2d CFT [30-35], [36-37], [41-43], [44,45, C12, C17] -----

Analytic expressions for singular vectors of the N= 2 superconformal algebra
M Dörrzapf – Comm. Math. Phys. 180 (1996) 195
Recently, **Ganchev and Petkova developed a third method** which transforms Kac-Moody singular vectors into Virasoro ones

Modular Invariants, Graphs and $α$-Induction for Nets of Subfactors II
J. Bockenhauer, D.E. Evans
Commun.Math.Phys. 200 (1999) 57-103, **arXiv:hep-th/9805023**

Abstract
…. our treatment leads canonically to certain fusion graphs, and in all our examples **we rediscover the graphs Di Francesco, Petkova and Zuber associated** empirically to the corresponding SU (n) modular in- variants.

Free field realization of SL(2) correlators for admissible representations, and hamiltonian reduction for correlators
J.L. Petersen, J. Rasmussen, M. Yu
Nucl.Phys.Proc.Suppl. 49 (1996) 27, **arXiv:hep-th/9512175**

Abstract
"…We derive explicit integral representations of N-point conformal blocks. We show that they satisfy the Knizhnik-Zamolodchikov equations and we prove how they are related to minimal conformal blocks **via a formulation of hamiltonian reduction advocated by Furlan, Ganchev, Paunov and Petkova."**

Hamiltonian reduction of SL(2) theories at the level of correlators
JL Petersen, J Rasmussen, M Yu – Nucl. Phys. B457 (1995) 343
"A particularly simple and **remarkable realization** of these ideas has been discussed by **Furlan**, **Ganchev** Paunov and Petkova [4] at the leve l of N-point conformal blocks on the sphere."

Two-point functions in affine SL (N) current algebra
J Rasmussen - Modern Physics Letters A, 13 (1998) 1213.
"..a **motivation** for studying two-point functions in affine current algebra is found in the wish to understand how to generalize to higher groups **the proposal by Furlan, Ganchev, Paunov and Petkova [3]** for how Hamiltonian reduction of affine SL(2) current algebra works at the level of correlators."

Conformal blocks for admissible representations in SL(2) current algebra
JL Petersen, J Rasmussen, M Yu - Nuclear Physics B457 (1995) 309
"…Thus **Furlan**, **Ganchev**, **Paunov and Petkova** [4] **presented a systematic approach** whereby one makes use of the represen- tations of primary SL(2) fields as functions of two

variables, (z,x), of which z is the usual Koba-Nielsen variable and x is a variable used to keep track of the **...”**

Integral Intertwining Operators and Complex Powers of Differential ($ q-$ Difference) Operators
B Feigin, F Malikov – Adv. Sov. Math. 17 (1993) 15
Unconventional Lie Algebras, 1993- books.google.com
“…They were **first put forward** by **Furlan**, **Ganchev**, **Paunov, and Petkova i**n [11] in order to get the Virasoro minimal models correlators from the solutions for KZ equations via a sort of a quantum Drinfeld-Sokolov reduction”

Singular vectors of the WA2 algebra
Z Bajnok - Physics Letters B329 (1994) 225
“ Basically there are two approaches to give explicit expressions for these null vectors. Much of the effort is based on one of these, the fusion procedure of Bauer et al [1]. The other one uses complex powers of the generators and was introduced by Malikov, Feigin and Fuchs (MFF) for the modules over KM algebras [2]. Later Kent extended the method for the Virasoro algebra [3]. **Ganchev and Petkova discovered a relationship between them** by considering the reduction of the MFF singular vectors [5].”

Modular Invariants, Graphs and $α$-Induction for Nets of Subfactors II
J. Bockenhauer, D.E. Evans, Comm.Math.Phys. 200 (1999) 57-103, **arXiv:hep-th/9805023**

Abstract
… our treatment leads canonically to certain fusion graphs, and in all our examples **we rediscover the graphs Di Francesco, Petkova and Zuber associated** empirically to the corresponding SU (n) modular in- variants.

Braided Subfactors, Spectral Measures, Planar algebras and Calabi-Yau algebras associated to SU (3) modular invariants

DE Evans, M Pugh - arXiv preprint arXiv:1110.4547
... Behrend, Pearce, Petkova and Zuber [4] (see also [105]) **systematically proposed nim- reps as a framework for boundary conformal field theory.**

Integrable lattice realizations of conformal twisted boundary conditions
CH Chui, C Mercat, WP Orrick, PA Pearce, Phys. Lett. 517 B (2001) 429, **arXiv:hep-th/0106182**

Abstract
We construct integrable lattice realizations of conformal twisted boundary conditions for sl(2) unitary minimal models on a torus. … Taking symmetries into account, these are identified with **conformal twisted boundary conditions of Petkova and Zuber** ….

Integrable and conformal twisted boundary conditions for sl (2) ADE lattice models
CHO Chui, C Mercat, PA Pearce -*J. Phys. A: Math. Gen.* **36** (2003) 2623, **arXiv:hep-th/0210301**

Abstract
... Identifying our construction labels with the conformal labels of **Petkova and Zuber**, we find that the integrable seams are in one-to-one correspondence with the conformal seams.

On the symmetries of classical string theory
CP Bachas - Quantum Mechanics of Fundamental Systems: The …, 2009 - Springer
"Topological loop operators were **first introduced and analyzed in CFT** by **Petkova and Zuber** [40]. **..."**

Torus structure on graphs and twisted partition functions for minimal and affine models
R Coquereaux, M Huerta - Journal of Geometry and Physics 48 (2003) 580 "The interpretation of what we call torus structures

in terms of defects (or twists) in a conformal field theory with boundary was proposed by **Petkova and Zuber** [37]. "

Fusion of conformal interfaces
C Bachas, I Brunner - JHEP, 02 (2008) 085
"Interfaces of this type, first introduced by **Petkova and Zuber** [4], can move freely on a Riemann surface and are, in this sense, "topological"."

On Ocneanu's theory of double triangle algebras for subfactors and classification of irreducible connections on the Dynkin diagrams
S Goto - Expositiones Mathematicae, 2010 - Elsevier
"**Petkova and Zuber also give some weak Hopf algebra** structure of the double triangle algebra in [44]."

Defect lines and boundary flows
K Graham, GMT Watts – JHEP04 (2004) 019
2 2.1 **Petkova and Zuber's defect** lines … Here we also review the construction defect lines **following Petkova and Zuber**.

-----2d CFT and non-critical string theory [48-50]---

On the timelike Liouville three-point function
Gaston Giribet Phys. Rev. D85 (2012) 086009,
arXiv:1110.6118

Abstract
In a recent paper, D. Harlow, J. Maltz, and E. Witten showed that a **particular proposal** for the timelike Liouville three-point function, **originally due to Al. Zamolodchikov and to I. Kostov and V. Petkova**, can actually be computed by the original Liouville path integral evaluated on a new integration cycle. Here, we discuss a Coulomb gas computation

RCFT with defects: Factorization and fundamental world sheets

Jens Fjelstad, Jurgen Fuchs, Carl Stigner, Nucl.Phys. B863 (2012) 213, arXiv:1202.3929 [hep-th]

"… aspects of factorization in the presence of defects have **so far only been addressed in [8],** where the particular case of crossing relations for four-point correlators on the sphere was discussed."
[8] V.B. Petkova, On the crossing relation in the presence of defects, J. High Energy Phys. 1004 (2010) 061, arXiv: 0912.5535.

----цитирани формули от няколко работи -----

TFT construction of RCFT correlators I: Partition functions
Jürgen Fuchs, Ingo Runkel, Christoph Schweigert
Nucl.Phys.B646:353-497,2002, **arXiv:hep-th/0204148**

TFT construction of RCFT correlators IV: Structure constants and correlation functions
Jürgen Fuchs, Ingo Runkel, Christoph Schweigert
Nucl.Phys.B715:539-638,2005, **arXiv:hep-th/0412290**

Earlier papers – higher dim CFT [6,8} and supersymmetry 19,20,21]

Light-ray operators in conformal field theory
Petr Kravchuk, David Simmons-Duffin (Caltech). Apr 30, 2018. 115 pp.
e-Print: arXiv:1805.00098 [hep-th]

--- работа [8] се цитира съществено 8 пъти за конкретни резултати/формули

-

Weight Shifting Operators and Conformal Blocks
Denis Karateev (SISSA, Trieste & INFN, Trieste), Petr Kravchuk (Caltech), David Simmons-Duffin (Caltech & Princeton, Inst. Advanced Study). Jun 23, 2017. 84 pp.
Published in JHEP 1802 (2018) 081
DOI: 10.1007/JHEP02(2018)081
e-Print: arXiv:1706.07813 [hep-th]

--- работа [8] се цитира под № 81 съществено 4 пъти за конкретни резултати

"The two-point function has been computed in [60] by Fourier transformation in general dimensions ...

Momentum space approach to crossing symmetric CFT correlators
Hiroshi Isono, Toshifumi Noumi, Gary Shiu. May 28, 2018. 40 pp.
KOBE-COSMO-18-06, MAD-TH-18-04, KOBE-COSMO-18-06, MAD-TH-18-04
e-Print: arXiv:1805.11107 [hep-th] |

---- работа [8] се цитира под № 60 съществено за конкретен резултат:

"The two-point function has been computed in [60] by Fourier transformation in general dimensions ...

Universality at large transverse spin in defect CFT

Madalena Lemos, Pedro Liendo, Marco Meineri, Sourav Sarkar

arXiv:1712.08185 [hep-th]

-- работа [6] се цитира под № 41 съществено за конкретна формула (виж (3.19))

Higher Spin de Sitter Hilbert Space

Dionysios Anninos, Frederik Denef, Ruben Monten, Zimo Sun

arXiv:1711.10037 [hep-th]

-- работа [8] се цитира под № 76 съществено за конкретен резултат (виж A.16)

Integrability of Conformal Blocks I: Calogero-Sutherland Scattering Theory

Mikhail Isachenkov, Volker Schomerus

arXiv:1711.06609

работа [8] се цитира под № 7 съществено 3 пъти за конкретни резултати

From Spinning Conformal Blocks to Matrix Calogero-Sutherland Models

Volker Schomerus, Evgeny Sobko
Published in JHEP 1804 (2018) 052
DOI: 10.1007/JHEP04(2018)052
e-Print: arXiv:1711.02022 [hep-th]

--- работа [8] се цитира под № 47 съществено 2 пъти за конкретни резултати

More on Supersymmetric and 2d Analogs of the SYK Model
Jeff Murugan (Cape Town U., Dept. Math. & Princeton, Inst. Advanced Study), Douglas Stanford, Edward Witten (Princeton, Inst. Advanced Study). Jun 16, 2017. 105 pp.
Published in JHEP 1708 (2017) 146
DOI: 10.1007/JHEP08(2017)146
e-Print: arXiv:1706.05362 [hep-th]

----- работа [8] се цитира под № 31 съществено за конкретен резултат (стр. 34)

On the Higher-Spin Spectrum in Large N Chern-Simons Vector Models
S. Giombi (Princeton U.), V. Gurucharan (Dayalbagh Ed. Inst.), V. Kirilin (Princeton U.), S. Prakash (Dayalbagh Ed. Inst.), E. Skvortsov (Munich U., ASC & Lebedev Inst.). Oct 26, 2016. 52 pp.
Published in JHEP 1701 (2017) 058
DOI: 10.1007/JHEP01(2017)058
e-Print: arXiv:1610.08472 [hep-th] |

--- цитира [6] под номер №67 за формула (2.9)

Projectors and seed conformal blocks for traceless mixed-symmetry tensors

Miguel S. Costa (CERN & Porto U.), Tobias Hansen (Porto U. & Hamburg U., Inst. Theor. Phys. II), João Penedones (CERN & Porto U. & EPFL, Lausanne, FSL), Emilio Trevisani (Porto U. & Porto U., Astron. Dept.).
Published in JHEP 1607 (2016) 018
DOI: 10.1007/JHEP07(2016)018
e-Print: arXiv:1603.05551 [hep-th]

--- цитира [6] за формула (A.1)

L∞ algebras for extended geometry from Borcherds superalgebras

Martin Cederwall, Jakob Palmkvist
arXiv:1804.04377 [hep-th].

--- работа [20] се цитира под № 64 съществено за въведеното в работата понятие:
"This corresponds to a “generalised Weyl transformation” or “odd Weyl reflection” [64]...."

Operator Dimensions from Moduli
Simeon Hellerman (Tokyo U., IPMU), Shunsuke Maeda, Masataka Watanabe (Tokyo U. & Tokyo U., IPMU).
Jun 18, 2017. 48 pp.
Published in JHEP 1710 (2017) 089
DOI: 10.1007/JHEP10(2017)089
e-Print: arXiv:1706.05743 [hep-th] |

-- цитира на три места работи № [21,19] под № 24,25 съществено за конкретни резултати

The complete unitary dual of non-compact Lie superalgebra su(p,q|m) via the generalised oscillator formalism, and non-compact Young diagrams

Murat Günaydin, Dmytro Volin

arXiv:1712.01811 [math-ph]

--- работи [19,21] се цитират под № 37,38 съществено за конкретни резултати
