

### About nonassociativity in mathematics and physics

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Acta applicandae mathematicae 1998 / p. 3-31  
<https://link.springer.com/article/10.1023/A:1005854831381>

### AGMF'2007 Göteborgis

**Paal, Eugen** Aastaraamat 2007 / Eesti Matemaatika Selts 2012 / lk. 178

### Algebra Geometry Mathematical Physics VIII

2013

### Algebra, geomeetria ja matemaatiline füüsika. 5. rahvusvaheline konverents, Bedlewo, Poola, 12.-16. oktoober 2009

**Paal, Eugen** Aastaraamat 2009 / Eesti Matemaatika Selts 2010 / lk. 272-273

### Algebra, geomeetria ja matemaatilise füüsika rahvusvaheline seminar AGMF'05 Tallinnas

**Paal, Eugen**; Puusepp, Peeter Aastaraamat 2005 / Eesti Matemaatika Selts 2006 / lk. 241-242

### Algebra, geometry and mathematical physics

2011 [https://www.ester.ee/record=b5749782\\*est](https://www.ester.ee/record=b5749782*est)

### Algebra, geometry and mathematical physics : AGMP, Mulhouse, France, October 2011

2014 [https://www.ester.ee/record=b4425009\\*est](https://www.ester.ee/record=b4425009*est)

### Analytic Moufang-transformations

**Paal, Eugen** 1988 [https://www.ester.ee/record=b1229781\\*est](https://www.ester.ee/record=b1229781*est)

### Birepresentation of Mal'tsev Algebras

**Paal, Eugen** International Congress on Algebra in Memory of A.L.Shirsov : Barnaul, August 20-25 : theses on ring theory, algebras and modules : abstracts 1991 / p. 172

### Birepresentations of derivative moufang loops

**Paal, Eugen** Eesti Teaduste Akadeemia Toimetised. Füüsika. Matemaatika 1991 / 2, lk. 105-111

### Birepresentations of Mal'tsev algebras

**Paal, Eugen** Tallinna Tehnikaülikooli Toimetised 1994 / lk. 19-32

### Coalgebra, cocomposition and cohomology

Oziewicz, Zbigniew; **Paal, Eugen**; Rozanski, Jerzy Non-associative algebra and its applications 1994 / p. 314-322

### Coassociativity, cohomology and Gerstenhaber algebras

**Paal, Eugen** Algebras, groups and geometries 1998 / p. 85-93

### Coassociativity, cohomology and quantum determinant

Oziewicz, Zbigniew; **Paal, Eugen**; Rozanski, Jerzy Algebras, groups and geometries 1995 / p. 99-109

[https://www.researchgate.net/publication/269024862\\_Coassociativity\\_cohomology\\_and\\_quantum\\_determinant](https://www.researchgate.net/publication/269024862_Coassociativity_cohomology_and_quantum_determinant)

[https://www.ester.ee/record=b3376117\\*est](https://www.ester.ee/record=b3376117*est)

### Continuous Moufang transformations

**Paal, Eugen** Acta applicandae mathematicae 1998 / p. 77-91

### Derivations in braided geometry

Oziewicz, Zbigniew; **Paal, Eugen**; Rozanski, Jerzy Acta physica Polonica. Series B 1995 / 7, p. 1253-1273: ill

### Derivative birepresentations of Moufang loops

**Paal, Eugen** Matemaatika teoreetilisi ja rakenduslikke küsimusi : konverentsi ettekannete teesid : 21-22. IX 1990 = Problems of pure and applied mathematics : abstracts of conference : 21-22. IX 1990 = Проблемы теоретической и прикладной математики : тезисы докладов конференции : 21-22. IX 1990 1990 / lk. 15-16 [https://www.ester.ee/record=b1247144\\*est](https://www.ester.ee/record=b1247144*est)

### Derivative moufang transformations

**Paal, Eugen** Group Theoretical Methods in Physics : proceedings of 18th International Colloq., Moscow, June 4-9, 1991 1991 / p. 573-574

### Dynamical deformations of three-dimensional Lie algebras in Bianchi classification over the harmonic oscillator

**Paal, Eugen**; Virkepu, Jüri Journal of mathematical physics 2009 / p. 053523-1 - 053523-8

### **Generalized Lie theory in mathematics, physics and beyond**

Silvestrov, Sergei; **Paal, Eugen**; Abramov, Viktor; Stolin, Alexander 2009 <https://link.springer.com/book/10.1007/978-3-540-85332-9>

### **Geodesic loops and BRST-like cohomology**

Kuusk, Piret; **Paal, Eugen** Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 1996 / 2/3, p. 128-133

### **Geodesic multiplication and BRST-like operator**

Kuusk, Piret; **Paal, Eugen** Matemaatika teoreetilisi ja rakenduslikke küsimusi : teesid, 13.-14. oktoober 1995 = Problems of pure and applied mathematics : abstracts 1995 / [1] lk

### **Geodesic multiplication and BRST-like operators**

Kuusk, Piret; **Paal, Eugen** General relativity and gravitation 1996 / 8, p. 991-998

### **Geodesic multiplication and geodesic translations as a generalization of Poincare shifts**

Kuusk, Piret; Örd, Jüri; **Paal, Eugen** 15th International Conference on General Relativity and Gravitation, Pune, India, 16.-21. December 1997 : abstracts 1998 / [1] p

### **Geodesic multiplication and geometrical BRST-like operators**

Kuusk, Piret; Örd, Jüri; **Paal, Eugen** Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 1995 / 4, p. 437-449

### **Geodesic multiplication and the theory of gravity**

Kuusk, Piret; Örd, Jüri; **Paal, Eugen** Journal of mathematical physics 1994 / 1, p. 321-334

### **Geodesic multiplication as a tool for classical and quantum gravity**

Kuusk, Piret; **Paal, Eugen** Tallinna Tehnikaülikooli Toimetised 1992 / lk. 33-42

### **Geodesic multiplication as a tool for classical and quantum gravity : abstract**

Kuusk, Piret; **Paal, Eugen** 1992

### **Geodesic multiplication in the theory of gravity**

Kuusk, Piret; **Paal, Eugen** Proceedings of the 2nd Alexander Friedmann Institute seminar on gravitation and cosmology, St.Petersburg, 1994 1994 / p. 324-335

### **Graph Operad Logic X**

2013

### **Harilikud diferentsiaalvõrrandid**

**Paal, Eugen** 2016

### **Homological modelling of the electric circuits**

**Paal, Eugen**; Umbleja, Märt Moduli Operads Dynamics II 2014

### **How to compose Lagrangian?**

**Paal, Eugen**; Virkepu, Jüri Generalized Lie theory in mathematics, physics and beyond 2009 / p. 131-140

### **Invitation to composition**

**Kluge, Liivi**; **Paal, Eugen**; Stasheff, Jim Communications in algebra 2000 / 3, p. 1405-1422

### **Invitation to operadic dynamics**

**Paal, Eugen** Journal of generalized Lie theory and applications 2007 / 1, p. 57-63

[https://www.researchgate.net/publication/49598955\\_Invitation\\_to\\_operadic\\_dynamics](https://www.researchgate.net/publication/49598955_Invitation_to_operadic_dynamics)

### **Jaak Lõhmus : 28.09.1937-23.02.2006**

Vesman, Elmar; **Paal, Eugen** Eesti Füüsika Seltsi aastaraamat 2006 2007 / lk. 19-20

### **Jacobi operators of quantum counterparts of three-dimensional real Lie algebras over the harmonic oscillator**

**Paal, Eugen**; Virkepu, Jüri Algebra, geometry and mathematical physics 2011 / p. 199-209

### **Journal of generalized Lie theory and applications**

**Paal, Eugen**; Silvestrov, Sergei 2007 [https://www.ester.ee/record=b2262967\\*est](https://www.ester.ee/record=b2262967*est)

### **Journal of physics : conference series**

2012 <https://iopscience.iop.org/journal/1742-6596>

## **KRON's one page N/W manual**

**Paal, Eugen** ASTRALGO Science 2015 / p. 1504

## **Lineaaralgebra**

**Paal, Eugen** 2004 [http://www.ester.ee/record=b1926837\\*est](http://www.ester.ee/record=b1926837*est)

## **Lineaaralgebra elemente**

**Paal, Eugen** 2000 [https://www.ester.ee/record=b1386301\\*est](https://www.ester.ee/record=b1386301*est)

## **Lineaaralgebra [Võrguteavik] : veebiõpik**

**Paal, Eugen** 2006 [https://www.ester.ee/record=b1994639\\*est](https://www.ester.ee/record=b1994639*est) <https://digikogu.taltech.ee/et/Item/9b042ff9-519b-4765-8c2b-1df7142664eb>

## **Local differentiable loops and BRST-like cohomology**

Kuusk, Piret; **Paal, Eugen** Algebras, groups and geometries 1996 / p. 465-469

## **Mal'tsev algebras and conservation laws**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Contemporary mathematics 1995 / p. 281-290

## **Mal'tsev algebras and conservation laws**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Abst. II Int. Wigner Symposium, Goslar, July 15-20, 1991 1991 / p. 75

## **Mal'tsev algebras and triality**

**Paal, Eugen** Journal of physics : conference series 2012 / p. 012015 <https://iopscience.iop.org/article/10.1088/1742-6596/346/1/012015>

## **Matemaatika. Füüsika**

**Paal, Eugen**; Ruus, Tõnu; Suurvarik, Pavel; Tammeraid, Ivar; Vichmann, Frederik 1994 [https://www.ester.ee/record=b1065772\\*est](https://www.ester.ee/record=b1065772*est)

## **Matemaatilise füüsika võrrandid**

**Paal, Eugen** 2015

## **Mitteassotsiatiivsed algebrad füüsikas**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Aastaraamat 1994 - 1996 / Eesti Matemaatika Selts 1999 / lk. 30-35

## **Mitteassotsiatiivsed algebrad füüsikas (monograafia) : Nonassociative algebras in Physics. Hadronic Press, Palm Harbour, USA. 1994 : [tutvustus]**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Eesti Teaduste Akadeemia aastaaruanne 1994 1995 / lk. 50-51: ill

## **Moduli Operads Dynamics I**

2013

## **Moduli Operads Dynamics II**

2014

## **Moufang loops and generalized Lie equations**

**Paal, Eugen** Eesti Teaduste Akadeemia Toimetised. Füüsika. Matemaatika 1992 / 2, lk. 125-132

## **Moufang loops and generalized Lie-Cartan theorem**

**Paal, Eugen** Journal of generalized Lie theory and applications 2008 / 1, p. 45-49 <https://www.hilarispublisher.com/open-access/moufang-loops-and-generalized-liecartan-theorem-1736-4337-2-114.pdf>

## **Moufang loops and generalized Maurer-Cartan equations**

**Paal, Eugen** 11-th International Conference "Symmetry Methods in Physics" 2004 / [1] p

## **Moufang loops and generalized Maurer-Cartan equations**

**Paal, Eugen** International Conference "Non-commutative Geometry and Representation Theory in Mathematical Physics" 2004 / [1] p

## **Moufang loops and integrability of generalized Lie equations**

**Paal, Eugen** Abstr. XIII Int.Coll. "Integrable Systems and Quantum Groups" 2004 / p. 17-19

## **Moufang loops and integrability of generalized Lie equations**

**Paal, Eugen** Czechoslovak journal of physics 2004 / 11, p. 1375-1380 <https://link.springer.com/article/10.1007/s10582-004-9804-0>

## **Moufang loops and Lie algebras**

**Paal, Eugen** Czechoslovak journal of physics 2003 / p. 1101-1104 <https://link.springer.com/article/10.1023/B:CJOP.0000010540.18158.dc>

### **Moufang loops and Lie algebras**

**Paal, Eugen** Abstracts : 12th International Colloquium Quantum Groups and Integrable Systems : Prague, 2003 2003  
<https://link.springer.com/article/10.1023/B:CJOP.0000010540.18158.dc>

### **Moufang symmetries and conservation laws**

**Paal, Eugen**; Lõhmus, Jaak; Sorgsepp, Leo Eesti Teaduste Akadeemia Toimetised. Füüsika. Matemaatika 1992 / 2, lk. 133-141

### **Moufang symmetry I. Associators and Akivis identity. Generalized Lie and Maurer-Cartan equations**

**Paal, Eugen** ASTRALGO Science 2016 / art. 1602, [6] p <http://www.astralgo.com/2382-672X/1602.php>

### **Moufang transformations and Noether currents**

**Paal, Eugen** Generalized Lie theory in mathematics, physics and beyond 2009 / p. 3-8  
<https://ui.adsabs.harvard.edu/abs/2006math.ph...2023P/abstract>

### **Nonassociative algebras in physics**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo 1994

### **Note on 2d binary operadic harmonic oscillator**

**Paal, Eugen**; Virkepu, Jüri Journal of generalized Lie theory and applications 2008 / 3, p. 221-225  
<https://www.hilarispublisher.com/open-access/note-on-d-binary-operadic-harmonic-oscillator-1736-4337-2-140.pdf>

### **Note on analytic Moufang loops**

**Paal, Eugen** Commentationes mathematicae Universitatis Carolinae 2004 / 2, p. 349-354 <https://eudml.org/doc/249351>

### **Note on analytic Moufang loops**

**Paal, Eugen** Abstracts of International Conference : Loop'03 : Prague, 2003 2003 <https://eudml.org/doc/249351>

### **Note on homological modeling of the electric circuits**

**Paal, Eugen**; Umbleja, Märt 3Quantum : Algebra Geometry Information (QQQ Conference 2012) : 10-13 July 2012, Tallinn, Estonia : dedicated to memory of Professor Jean-Louis Loday (1936-2012) 2014 / p. 1-7 <https://doi.org/10.1088/1742-6596/532/1/012022>  
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Note on Moufang-Noether currents**

**Paal, Eugen** Czechoslovak journal of physics 2006 / 10/11, p. 1257-1262 <https://arxiv.org/pdf/math-ph/0606054.pdf>

### **Note on operadic harmonic oscillator**

**Paal, Eugen**; Virkepu, Jüri Reports on mathematical physics 2008 / 2, p. 207-212  
<https://www.sciencedirect.com/science/article/abs/pii/S0034487708800080>

### **Note on operadic non-associative deformations**

**Paal, Eugen** Journal of nonlinear mathematical physics 2006 / Supplement, August, p. 87-92 <https://www.atlantis-press.com/journals/jnmp/372>

### **Note on star-triangle equivalence in conducting networks**

**Paal, Eugen**; Umbleja, Märt ASTRALGO Science 2015 / p. 1501-1 - 1501-4 : ill

### **On algebraic structure of pre-operad**

**Kluge, Liivi** 2002 [https://www.ester.ee/record=b1688674\\*est](https://www.ester.ee/record=b1688674*est)

### **On currents and symmetries associated with Mal'tsev algebras**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo 1989 [https://www.ester.ee/record=b1209537\\*est](https://www.ester.ee/record=b1209537*est)

### **On derivation deviations in an abstract pre-operad**

**Kluge, Liivi**; **Paal, Eugen** Communications in algebra 2001 / p. 1609-1626  
[https://www.researchgate.net/publication/2099024\\_On\\_derivation\\_deviations\\_in\\_an\\_abstract\\_pre-operad](https://www.researchgate.net/publication/2099024_On_derivation_deviations_in_an_abstract_pre-operad)

### **On invariants of continuous Moufang transformations**

**Paal, Eugen** Квазигруппы и неассоциативные алгебры в физике 1990 / p. 98-106 [https://www.ester.ee/record=b1214235\\*est](https://www.ester.ee/record=b1214235*est)

### **On Lagrange formalism for Lie theory and operadic harmonic oscillator in low dimensions = Lagrange'i formalismist Lie teooriale ja harmooniline operaadostsillaator madalates dimensioonides**

**Virkepu, Jüri** 2009 [https://www.ester.ee/record=b2540604\\*est](https://www.ester.ee/record=b2540604*est)

### **Operadic deformation as a tool for cogravity**

**Paal, Eugen** Abstracts of 11th International Colloquium "Quantum groups and Integrable Systems" 2002 / ? p

<https://link.springer.com/article/10.1023/A:1021397306799>

### **Operadic deformations as a tool for cogravity**

**Paal, Eugen** Czechoslovak journal of physics 2002 / 11, p. 1277-1282 <https://link.springer.com/article/10.1023/A:1021397306799>

### **Operadic Heisenberg-like equation**

**Paal, Eugen** Graph Operad Logic X 2013

### **Operadic quantization as a tool for discrete geometry**

**Paal, Eugen; Virkepu, Jüri** 3Quantum : Algebra Geometry Information (QQQ Conference 2012) : 10-13 July 2012, Tallinn, Estonia : dedicated to memory of Professor Jean-Louis Loday (1936-2012) 2014 / p. 1-9 <https://doi.org/10.1088/1742-6596/532/1/012023>  
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Operadic representations of harmonic oscillator in some 3d algebras**

**Paal, Eugen; Virkepu, Jüri** Journal of generalized Lie theory and applications 2009 / 1, p. 53-59

### **Operads and cohomology**

**Kluge, Liivi; Paal, Eugen** Algebras, groups and geometries 2004 / p. 1-7

### **Operads and deformations**

**Paal, Eugen** Algebras, groups and geometries 2005 / p. 193-200

### **Operads and nonassociative deformations**

**Paal, Eugen** Non-associative algebra and its applications 2006 / p. 323-328

<https://www.taylorfrancis.com/chapters/edit/10.1201/9781420003451-34/operads-nonassociative-deformations-eugen-paal>

### **Operads for x-physics**

**Paal, Eugen** Czechoslovak journal of physics 2001 / 12, p. 1407-1413

### **Operads for x-physics**

**Paal, Eugen** Abstracts of 10th International Colloquium "Quantum Groups and Integrable Systems" : Prague, 21-23 June, 2001 2001 / p. 8 [https://www.researchgate.net/publication/226036969\\_Operads\\_for\\_x-physics](https://www.researchgate.net/publication/226036969_Operads_for_x-physics)

### **Operads, cohomology, and deformations**

**Paal, Eugen** New Developments in Mathematical Physics Research 2004 / p. 117-129

### **Plane rotations and Hamilton-Dirac mechanics**

**Paal, Eugen; Virkepu, Jüri** Czechoslovak journal of physics 2005 / p. 1503-1508 <https://link.springer.com/article/10.1007/s10582-006-0032-7>

### **Preface**

Makhlouf, Abdenacer; **Paal, Eugen**; Silvestrov, Sergei; Stolin, Alexander Algebra, geometry and mathematical physics : AGMP, Mulhouse, France, October 2011 2014 / p. vii-ix

### **Preface to "Algebra, Geometry, and Mathematical Physics 2010"**

Abramov, Viktor; Fuchs, Jürgen; **Paal, Eugen**; Shestopalov, Y.; Silvestrov, Sergei; Stolin, Alexander Journal of physics : conference series 2012 / p. 0111001 <https://ui.adsabs.harvard.edu/abs/2012JPhCS.346a1001S/abstract>

### **q-Tetratransformations in conducting networks**

**Paal, Eugen** ASTRALGO Science 2015 / p. 1503-1 - 1503-2 : ill

### **Quantum counterparts of three-dimensional real Lie algebras over harmonic oscillator**

**Paal, Eugen; Virkepu, Jüri** Central European journal of physics 2009 / [7] p <https://www.degruyter.com/document/doi/10.2478/s11534-009-0123-8/html?lang=en>

### **Quantum kinematics of a test particle in a curved spacetime**

Kuusk, Piret; Örd, Jüri; **Paal, Eugen** Class. Quantum Grav 1997 / p. 2917-2926

### **Quantum of $V_{IIa}$ , $III_a=1$ , $VI_a=1$ over the harmonic oscillator in semiclassical approximation**

**Paal, Eugen; Virkepu, Jüri** Proceedings of the Estonian Academy of Sciences 2010 / 4, p. 347-354

### **Seminar "Algebra ja tema rakendused" : Nelijärve, 7.-8. mai 2005**

**Paal, Eugen; Puusemp, Peeter** Aastaraamat 2005 / Eesti Matemaatika Selts 2006 / lk. 243-244

### **Sissejuhatus operaadarvutusse**

**Kluge, Liivi; Paal, Eugen** Aastaraamat 1999 / Eesti Matemaatika Selts 2001 / lk. 13-26

### **SO(2) and Hamilton-Dirac mechanics**

Burdik, Cestmir; **Paal, Eugen; Virkepu, Jüri** Journal of nonlinear mathematical physics 2006 / Supplement, August, p. 37-43  
<https://www.tandfonline.com/doi/abs/10.2991/jnmp.2006.13.s.5>

### **Some applications of geodesic loops and nonlinear geometric algebra in the theory of gravity**

Kuusk, Piret; **Paal, Eugen** Acta applicandae mathematicae 1998 / p. 67-76

### **Tetracomposition**

**Kluge, Liivi; Paal, Eugen** Communications in contemporary mathematics 2002 / 3, p. 435-456

### **Tetratransformations in conducting networks**

**Paal, Eugen; Umbleja, Märt** ASTRALGO Science 2015 / p. 1502-1 - 1502-4 : ill

### **The Moufang'-Mal'tsev symmetries and conservation laws in field theory**

Lõhmus, Jaak; **Paal, Eugen**; Sorgsepp, Leo Abst. Int. Con. on Algebra in memory of A.I. Shirshov, Barnaul, August 20-25 1991 : theses on alg. geometry and appl. of algebra in geometry, analysis and theoretical physics 1991 / p. 21

### **The operadic modeling of gauge systems of the Yang-Mills type**

**Paal, Eugen** Reports on mathematical physics 2014 / p. 109-126 : ill [https://doi.org/10.1016/S0034-4877\(14\)60061-6](https://doi.org/10.1016/S0034-4877(14)60061-6) [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Three graphical operadic compositions for rooted trees**

**Paal, Eugen** ASTRALGO Science 2015 / p. 1505-1 - 1505-3 : ill

### **3Quantum : Algebra Geometry Information**

**Paal, Eugen**; Kuusk, Piret; Stolin, Alexander 3Quantum : Algebra Geometry Information (QQQ Conference 2012) : 10-13 July 2012, Tallinn, Estonia : dedicated to memory of Professor Jean-Louis Loday (1936-2012) 2014 / p. 1-7 <https://doi.org/10.1088/1742-6596/532/1/011001> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**3Quantum : Algebra Geometry Information (QQQ Conference 2012) : 10-13 July 2012, Tallinn, Estonia : dedicated to memory of Professor Jean-Louis Loday (1936-2012)**  
2014

### **2D binary operadic Lax representation for harmonic oscillator**

**Paal, Eugen; Virkepu, Jüri** Noncommutative structures in mathematics and physics : 22-26 juli 2008 2010 / p. 209-216  
[https://www.researchgate.net/publication/1913785\\_2D\\_binary\\_operadic\\_Lax\\_representation\\_for\\_harmonic\\_oscillator](https://www.researchgate.net/publication/1913785_2D_binary_operadic_Lax_representation_for_harmonic_oscillator)

### **Введение в Муфанг-симметрию**

**Paal, Eugen** 1987 [https://www.ester.ee/record=b1223099\\*est](https://www.ester.ee/record=b1223099*est)

### **Муфанг-Мальцевская симметрия**

**Paal, Eugen** Eesti Teaduste Akadeemia Toimetised. Füüsika. Matemaatika 1993 / 2, lk. 157-165

### **Муфанг-преобразования**

**Paal, Eugen** Фундаментальные взаимодействия : [сборник статей] 1987 / с. 142-158 [https://www.ester.ee/record=b1590575\\*est](https://www.ester.ee/record=b1590575*est)

### **Неассоциативность в математике и физике**

**Paal, Eugen**; Lõhmus, Jaak; Sorgsepp, Leo Квазигруппы и неассоциативные алгебры в физике 1990 / с. 8-22 : ил  
[https://www.ester.ee/record=b1214235\\*est](https://www.ester.ee/record=b1214235*est)

### **О бикомбинаторном представлении луп Муфанг**

**Paal, Eugen** Фундаментальные поля : [посвящается 60-летию М. Кыйва] 1989 / с. 104-124  
[https://www.ester.ee/record=b1292565\\*est](https://www.ester.ee/record=b1292565*est)

### **О неассоциативном расширении теоретико-группового метода на основе луп Муфанг и алгебр Мальцева**

**Paal, Eugen** Международная конференция по алгебре, посвященная памяти А. И. Мальцева (1909-1967), (Новосибирск, 21-26 августа 1989 г.) : тезисы докладов по теории моделей и алгебраичных систем 1989 / с. 97  
[https://www.ester.ee/record=b1553529\\*est](https://www.ester.ee/record=b1553529*est)

**О неассоциативном расширении теоретико-группового метода на основе луп Муфанг и алгебр Мальцева : автореферат ... кандидата физико-математических наук (01.04.02)**

**Paal, Eugen** 1989 [https://www.ester.ee/record=b1225404\\*est](https://www.ester.ee/record=b1225404*est)

О неассоциативном расширении теоретико-группового метода на основе луп Муфанг и алгебр Мальцева :  
диссертация на соискание ученой степени кандидата физико-математических наук  
Paal, Eugen 1989 [https://www.ester.ee/record=b4458645\\*est](https://www.ester.ee/record=b4458645*est)