Kang Lu

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Research Interests

Generally speaking, I am interested in **Representation Theory** and **Quantum Algebras** .

More specifically, my current research interests are: Bethe ansatz method, Representation Theory of Quantum Groups, Lie Algebras and Superalgebras, and Integrable System.

Education

Indiana University Purdue University Indianapolis, Indianapolis, IN USA

Ph.D. candidate, expected graduation date: May 2019
- Advisor: [Evgeny Mukhin](#)

Zhejiang University, Hangzhou, Zhejiang China

M.S., Mathematics, July 2014
- Advisor: [Gang Han](#)

Fudan University, Shanghai, China

B.A., Mathematics, July 2010

Honors and Awards

Yuri Abramovich Memorial Scholarship, IUPUI, 2017

Outstanding Advanced Graduate Student, IUPUI, 2016

Outstanding Beginning Graduate Student, IUPUI, 2015

Charalambos D. Aliprantis Prize, IUPUI, 2015

First Year Fellowship from School of Science, IUPUI, 2014

Excellent Master Candidate of Zhejiang University, 2013

Preprints

1. Kang Lu, *Lower bounds for numbers of real self-dual spaces in problems of Schubert calculus*, preprint, [arXiv:1710.06534](#).
2. Gang Han, Yucheng Liu, and Kang Lu. *Multiplicity free gradings on semisimple Lie and Jordan algebras and skew root systems*, preprint, [arXiv:1611.03943](#).
3. Kang Lu, Gang Han, and Jun Yu. *Fine gradings of complex simple Lie algebras and Finite Root Systems*, preprint, [arXiv:1410.7945](#) .

Publications

1. Kang Lu, E. Mukhin, and A. Varchenko. *Self-dual Grassmannian, Wronski map, and representations of* $\mathfrak{gl}_N$, $\mathfrak{sp}_{2r}$, $\mathfrak{so}_{2r+1}$, accepted by a special issue of Pure Appl. Math. Q. in honor of Yuri Manin's 80-th birthday, [arXiv:1705.02048](#).

2. Kang Lu, E. Mukhin. *On the Gaudin model of type* G_2, Commun. Contemp. Math., arXiv:1711.02511.

3. Kang Lu, E. Mukhin, and A. Varchenko. *On the Gaudin model associated to Lie algebras of classical types*, J. Math. Phys. 57, 101703 (2016), arXiv:1512.08524.

CONFERENCES Representation Theory at the Crossroads of Modern Mathematics, Université de Reims Champagne Ardenne, May 29-June 2, 2017.
Poster: Self-dual Grassmannian and Representations of $\mathfrak{gl}_N$, $\mathfrak{sp}_{2r}$, and $\mathfrak{so}_{2r+1}$

AMS Spring Central Sectional Meeting, Indiana University, Bloomington, April 1-2, 2017.
Talk: Bethe ansatz method in Gaudin Model

Algebra, Geometry and Combinatorics Day (ALGECOM-13), University of Notre Dame, April 30, 2016.

Lie Algebras, Vertex Operator Algebras, and Related Topics, University of Notre Dame, Aug 14-18, 2015.

TEACHING MATH 15400: Trigonometry, 2018 Summer II

MATH 11000: Fundamentals of Algebra, 2018 Spring

MATH 16500: Integrated Calculus and Analytic Geometry I, 2017 Fall