



# Noncommutative desingularization of orbit closures for some representations of $GL_n$

Jerzy Weyman, Gufang Zhao

(Submitted on 2 Apr 2012)

We describe noncommutative desingularizations of determinantal varieties, determinantal varieties defined by minors of generic symmetric matrices, and pfaffian varieties defined by pfaffians of generic anti-symmetric matrices. For maximal minors of square matrices and symmetric matrices, this gives a non-commutative crepant resolution. Along the way, we describe a method to calculate the quiver with relations for any non-commutative desingularizations coming from exceptional collections over partial flag varieties.

Comments: 40 pages

Subjects: **Algebraic Geometry (math.AG)**; Commutative Algebra (math.AC); Representation Theory (math.RT)

Cite as: **arXiv:1204.0488 [math.AG]**  
(or **arXiv:1204.0488v1 [math.AG]** for this version)

## Submission history

From: Gufang Zhao [[view email](#)]

[v1] Mon, 2 Apr 2012 18:23:47 GMT (39kb)

*[Which authors of this paper are endorsers?](#)*

Link back to: [arXiv](#), [form interface](#), [contact](#).

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

math.AG

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1204](#)

Change to browse by:

[math](#)

[math.AC](#)

[math.RT](#)

## References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

