

The goal of the second project is study some papers relevant to the course, in preparation of the final project. Below are some suggested papers [1, 2, 3, 4]. All papers are available online, either on the preprint arXiv and/or via the authors web pages.

If you have other papers you find interesting, please let me know. You could also place the focus of your study on background papers, publications cited by the authors of the suggested papers.

The deadline is Monday 4 April 2011 at 10AM

The deliverable of this project is a technical report of at least five and not more than ten pages long. There are three items the report must contain.

In this report you must define the problem and describe *in your own words* the results of the paper you have chosen. When copying from a paper – e.g., the statement of a theorem – you must explicitly cite the paper.

Secondly, the report should describe a computational experiment illustrating the most important aspects discussed in the paper. An appendix to the report can be the output of a Maple worksheet, or the listing of a program on some examples.

The third and last element of the report is the conclusion. This should read like an executive summary. It should be brief, but completely self-contained. Summarize in one or two paragraphs what is most important about your project.

Feel free to come to my office for help.

References

- [1] S. Friedland. On tensors of border rank l in $\mathbb{C}^{m \times n \times l}$. [arXiv:1003.1968v2](https://arxiv.org/abs/1003.1968v2) [math.AG] 13 Nov 2010.
- [2] L. Li and A. Yong. Some degenerations of Kazhdan-Lusztig ideals and multiplicities of Schubert varieties. Preprint Feb 26, 2010, available at <http://www.math.uiuc.edu/~ayong/papers.html>.
- [3] Y. Lu, D.J. Bates, A.J. Sommese, and C.W. Wampler. Finding all real points of a complex curve. In A. Corso, J. Migliore, and C. Polini, editors, *Algebra, Geometry, and their Interactions*, volume 448 of *Contemporary Mathematics*, pages 183–205. AMS, 2007.
- [4] J. Rabinoff. Tropical analytic geometry, Newton polygons, and tropical intersections. [arXiv:1007.2665v1](https://arxiv.org/abs/1007.2665v1) [math.AG] 15 Jul, 2010.