

## MORE INFORMATION ABOUT THE PAPER:

Rubei, Elena "A result on resolutions of Veronese embeddings" Ann. Univ. Ferrara Sez. VII (N.S.) 50 (2004), 151–165.

I ask peer review for this paper.

MOTIVATION. I submitted this paper to Ann. di Mat. di Ferrara, and not to a more important journal, for the following reason: a paper by Greg Smith and Hal Schenck (arXiv:math/0308205) appeared on ArXiv just when I had to submit my paper to a journal; in their paper, it seemed that a result better than mine was proved; so, to "save" my paper in some way, I submitted it to Annali di Ferrara to make it published quickly. The proof of the result of Smith and Schenck was not correct and in the final version of their paper (joint work with M. Hering) this result was taken off. In the meanwhile my paper has been accepted by Annali di Matematica di Ferrara.

The problem of syzygies of Veronese varieties (precisely of the characterization of the numbers  $d, n, p$  such that the bundle  $O(d)$  on  $P^n$  satisfies Green's Property  $N_p$ ) proved to be very difficult: although the study of this problem started thirty years ago and several important mathematicians (among the others, Green, Eisenbud, Ein...) have worked on this problem, it has not been solved completely. So, even if the result of this paper is small, I think it has given a contribution to a really difficult problem and that it deserves a degree better than D. Therefore I ask peer review.

The paper has been cited in the following papers (see for instance GoogleScholar):

- 1) Park, Euisung "On syzygies of Veronese embedding of arbitrary projective varieties" J. Algebra 322 (2009), no. 1, 108–121
- 2) Rubei, Elena "Resolutions of Segre embeddings of projective spaces of any dimension" J. Pure Appl. Algebra 208 (2007), no. 1, 29-37
- 3) Eisenbud, David; Green, Mark; Hulek, Klaus; Popescu, Sorin "Restricting linear syzygies: algebra and geometry" Compos. Math. 141 (2005), no. 6, 1460–1478.
- 4) Bruns, Winfried; Conca, Aldo; Römer, Tim "Koszul homology and syzygies of Veronese subalgebras" Math. Ann. (NB Dicembre 2011) 351, 761–779
- 5) Park, Euisung "Higher syzygies of ruled varieties over a curve" Journal of Algebra, Vol. 296, Issue 1, (2006) 267-284. **N.B.** Precisely in this paper, the preprint on arxiv of mine is quoted.
- 6) Ein, Lawrence; Lazarsfeld, Robert "Asymptotic syzygies of algebraic varieties" Arxiv preprint arXiv:1103.0483, 2011 – arxiv.org, to appear in Inventiones Mathematicae

7) Vermeire, Peter "Generation and syzygies of the first secant variety" Arxiv preprint arXiv:0809.4463, 2008 - arxiv.org

8) Park, Euisung "Some effects of Veronese map on syzygies of projective varieties" Arxiv preprint arXiv:0509710, 2005 - arxiv.org

9) Vermeire Peter "Arithmetic properties of the first secant variety to a projective variety"- Arxiv preprint arXiv:1010.2386, 2010 - arxiv.org

10) Mathematisches Forschungsinstitut Oberwolfach Report No. 5/2006 "Convex and Algebraic Geometry" Workshop organised by Klaus Altmann, Victor Batyrev, Bernard Teissier