

The Enriques Prize Committee, formed by

Jeremy Blanc, Alberto Calabri, Lucia Caporaso, Ciro Ciliberto and Claudio Fontanari

has been working electronically.

All the members of the Committee read the two theses submitted for the Prize, precisely:

Fibrations in abelian varieties associated to Enriques surfaces, by Giulia Sacca'

On degeneracy loci of morphisms between vector bundles, By Fabio Tanturri

The main objective of the former work is to construct (using vector bundle techniques) a relative Prym variety on a linear system of curves on an Enriques surface. The resulting total space is endowed with a non—degenerate symplectic form defined over its smooth locus, so it can be seen as a (possibly singular) symplectic variety. Sacca' also studies topological and Hodge theoretic properties of the relative jacobian over the aforementioned linear systems.

Tanturri's thesis covers two classical subjects, which are attacked with nice geometric ideas and refined cohomological techniques. One of them is the study the Hilbert scheme of degeneracy loci of finite unions of line complexes in projective space (a topic which goes back to XIX century, with important contributions by Castelnuovo, Fano, Palatini, etc.). The Author proves that the parametrization of these loci by a suitable grassmannian is, in most cases, birational and determines when these loci fill up a whole component of the Hilbert scheme. The second topic is the representation as pfaffians of cubic surfaces in the 3--dimensional projective space over a non—necessarily algebraically closed field: here he improves on some results by A. Beauville.

All members of the Committee agree upon the fact that both theses contain very interesting results.

As for Sacca's thesis, the importance of symplectic varieties, their construction and study are very relevant in the classification of varieties with trivial canonical bundle, which is a very timely subject. Sacca' shows a deep knowledge of projective and birational geometry, moduli spaces, topology, Hodge theory, vector bundles techniques, etc. The results in this work are important and open the way for further research.

Tanturri's very nice theorem on parametrizaion solves a longstanding open problem. He shows very solid knowledge of classical projective geometry and of very delicate cohomological techniques. Also Tanturri's thesis opens up the way for future work.

All members of the Committee also agree upon the fact that both theses are well written, and they enjoyed reading them.

The Committee unanimously expresses its satisfaction for the very high level of the two submissions, which are both very suitable for the prize and on the whole comparable as quality.

The majority of members of the Committee, on the other hand, expresses a slight preference for Sacca's thesis, inasmuch as it deals with problems which are deeper in nature, involving more structure than the ones which have been treated by Tanturri.

Therefore the Committee, unanimously, decides to attribute the prize to Giulia Sacca'.

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