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## Abstracts of Short Communications and Posters

**Section:**

## 4. Algebraic Geometry

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**Higher order embeddings and Seshadri constants of abelian varieties**

Let $(A, L)$ be a polarized abelian variety with $L$ a line bundle of type $(d_1, \ldots, d_n)$. A classical result of Lefschetz states that if $d_1 \geq 2$ then $L$ is globally generated and if $d_1 \geq 3$ then $L$ is very ample.
In recent years Beltrametti, Sommese and others introduced the notions of $k-$very and $k-$jet ampleness as concepts of higher order embeddings. We give Lefschetz-type criteria for these two notions on abelian varieties. On abelian surfaces we obtain a precise classification of line bundles with respect to higher order embeddings. Both concepts are closely related to Seshadri constants, an invariant introduced by Demailly in order to measure locally positivity of a line bundle. We give bounds on Seshadri constants of abelian surfaces. In particular we show that they are rational.
Most of presented results were obtained jointly with Thomas Bauer (Erlangen).