THE UNKNOWN ACQUAINTANCE:

Algebraic geometry for non-algebraic geometers

Abstract

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This article is a light introduction to algebraic geometry, in particular to the birational classification of algebraic varieties.

After a short basic introduction the paper overviews the classification of algebraic curves by their genus. The next section is devoted to the canonical divisor which plays a central role in birational algebraic geometry. The curve classification is reformulated in terms of the canonical divisor. Next the minimal model theory of surfaces is discussed, again with special emphasis on the behavior of the canonical divisor. In the final section one can glimpse into the difficulties of carrying out the analogous theory in dimension 3.

The presentation is intended for a general audience and the interested reader can find some exercises with hints to their solution.

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