cases

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abstract	In the thesis we present a new method for parametrizing algebraic varieties over the field of characteristic zero. The problem of parametrizing is reduced to a problem of finding an isomorphism of algebras. We introduce the Lie algebra of a variety as a Lie algebra related to its group of automorphisms. Constructing an isomorphism of this one and some classical Lie algebra (for example the algebra of matrices of the zero trace) then leads to parametrizing the variety. The problem of finding an isomorphism of Lie algebras is further reduced to trivializing an associative algebra, which means finding an isomorphism of the algebra and a full matrix algebra. The last is a classical problem in number theory, when regarded over algebraically non-closed fields. We give algorithms for trivializing algebras of degrees up to 4 over number fields. In our work we used the method to parametrize Del Pezzo surfaces of degrees 8 and 9 over number fields. The algorithms are implemented for the case of the field of the rationals.	**abstract**	In the thesis we present a new method for parametrizing algebraic varieties over the field of characteristic zero. The problem of parametrizing is reduced to a problem of finding an isomorphism of algebras. We introduce the Lie algebra of a variety as a Lie algebra related to its group of automorphisms. Constructing an isomorphism of this one and some classical Lie algebra (for example the algebra of matrices of the zero trace) then leads to parametrizing the variety. The problem of finding an isomorphism of Lie algebras is further reduced to trivializing an associative algebra, which means finding an isomorphism of the algebra and a full matrix algebra. The last is a classical problem in number theory, when regarded over algebraically non-closed fields. We give algorithms for trivializing algebras of degrees up to 4 over number fields. In our work we used the method to parametrize Del Pezzo surfaces of degrees 8 and 9 over number fields. The algorithms are implemented for the case of the field of the rationals.		
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