

# HAMILTONIAN MOTION OF ALGEBRAIC CURVES

B.G. Konopelchenko and **G. Ortenzi**  
Department of Mathematics and Applications  
University of Milano Bicocca  
via Cozzi, 53, Italy  
giovanni.ortenzi@unimib.it

In this talk we introduce the notion of Hamiltonian motion of algebraic curves [1]. This motion generates a deformation of the algebraic curve which is an interesting subclass of coisotropic deformations of algebraic varieties [2]. Such Hamiltonian deformations are related, in a large number of cases, to the integrability of suitable PDE systems. As an example we present the case of the elliptic curves and the relations with the motion of an inviscid vortex filament.

## References

- [1] B. G. Konopelchenko and G. Ortenzi *Hamiltonian motions of plane curves and formation of bubbles*, J. Phys. A: Math. Theor. 43 (2010) 195204 (18pp)
- [2] B. G. Konopelchenko and G. Ortenzi *Coisotropic deformations of algebraic curves, surfaces, varieties and integrable systems*, J. Phys. A: Math. Theor. 42 No 41 (2009) 415207