Point vortices on non-orientable surfaces

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The standard Hamiltonian approach to the dynamics of point vortices on a surface involves the symplectic form on the surface together with the vorticity of the point vortices. However, both these ingredients involve a choice of orientation of the surface, which is of course not available for non-orientable surfaces. In this talk I will discuss how one can set up a Hamiltonian approach in the non-orientable setting, with particular reference to the Möbius band. This is joint work with Nataliya Balabanova.