

Abstract

We investigate the dynamical behaviours of the n -vortex problem with vorticity vector Γ on a Riemann sphere S^2 equipped with an arbitrary metric g . This system can be seen as a generalisation of the n -vortex problem on the plane. By using basic tools from Riemannian geometry and symplectic geometry, we obtained some elementary information on how the choice of Γ and g might impact the the fixed points and periodic orbits of the system.