

April 3, 2023

Ivan F. Kobtsev

Magnetic geodesic flows invariant under rotations.

Let M be a 2-manifold equipped with a circle action, as well as S^1 -invariant Riemannian metric and 2-form β (which gives a magnetic field). Consider the *magnetic geodesic flow* on M as the Hamiltonian system on T^*M with the Hamiltonian H of the standard geodesic flow and symplectic structure $\omega + \beta$, where ω is the standard symplectic structure on T^*M . This system is integrable. In the talk, the following topological properties of the Liouville foliation of the system will be studied (M considered to be the sphere, the projective plane, the torus or the Klein bottle):

- (1) bifurcation diagrams;
- (2) singularities of ranks 0 and 1;
- (3) bifurcations of the Liouville tori on non-singular isoenergy manifold Q_h^3 , the Fomenko and the Fomenko–Zieschang invariants.

SCIENTIFIC SEMINAR

“DIFFERENTIAL GEOMETRY AND APPLICATIONS”

headed by Academician of RAS Anatoly T. Fomenko

The seminar takes place online in ZOOM on Mondays
from 4:45 p.m. to 6:20 p.m. (Moscow time)

To get the zoom-ref, or to apply for your talk on the seminar, please, write to
the seminar secretary Alexey A. Tuzhilin tuz@mech.math.msu.su

Announcements of previous talks can be found on the seminar website
<http://dfgm.math.msu.su/chairsem.php>