NEW TOPOLOGICAL INVARIANTS OF SCATTERING OF LIOUVILLE INTEGRABLE SYSTEMS

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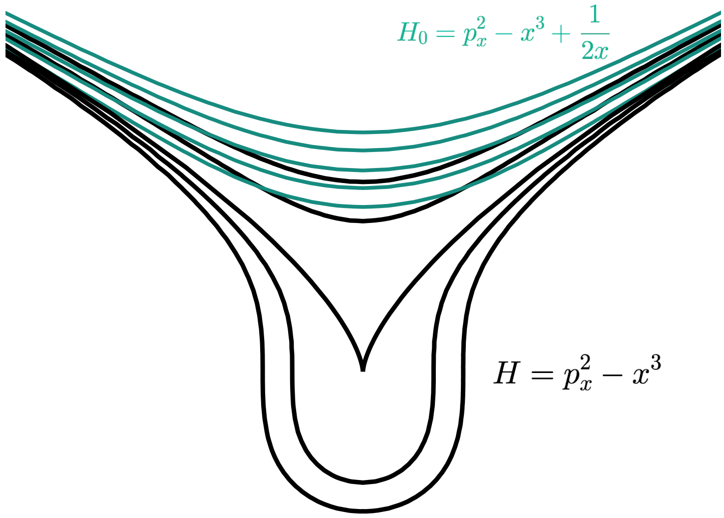
Scattering theory first entered the topological theory of Liouville integrable systems in the works [1,3], where the notion of (quantum) scattering monodromy was introduced (in the context of planar potential scattering with a rotationally-symmetric potential). Subsequently these works were generalised in [5] to include integrable systems with many degrees of freedom that are not necessarily invariant under a circle/torus action; see also [4].

In this talk, we shall show how similar ideas lead to what we call *scattering Fomenko-Zieschang invariants* (or *scattering marked molecules*); see [2] for their description in the compact case. These invariants can, in principle, be computed for all Liouville integrable systems with invariant cylinders, as long as an appopriate scattering pair can be defined. Several explicit examples, including the case of an A_2 singularity, will be discussed.



References

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