

## Hybrid integrable systems.

We develop the framework for quantum integrable systems on an integrable classical background. We call them hybrid quantum integrable systems (hybrid integrable systems), and we show that they occur naturally in the semiclassical limit of quantum integrable systems. We start with an outline of the concept of hybrid dynamical systems. Then we give several examples of hybrid integrable systems. The first series of examples is a class of hybrid integrable systems that appear in the semiclassical limit of quantum spin chains. Then we look at the semiclassical limit of the quantum spin Calogero–Moser system. The result is a hybrid integrable system driven by usual classical Calogero–Moser (CM) dynamics. This system at the fixed point of the multi-time classical dynamics CM system gives commuting spin Hamiltonians of Haldane–Shastry model.

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