Folding ADE-type integrable systems

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Abstract: For simple surface singularities, Diaconescu, Donagi and Pantev discovered in 2007 that the deformation spaces are governed by so-called ADE-type integrable systems, which had been introduced previously by Hitchin in the rather different context of Higgs bundles.

Many ADE-type Dynkin diagrams have automorphisms by which they can be 'folded' to non-ADE-diagrams. It is therefore natural to develop a folding procedure for ADE-type integrable systems, as was initiated by Beck in his 2016 thesis. In joint work with Beck and Donagi we have now developed folding procedures for the different incarnations of ADE-type integrable systems, allowing a comparison to orbifolding.

The talk will give an introduction to the different incarnations of ADE-type integrable systems and their folding.