

Voss surfaces in sine-Gordon hierarchies

Tuesday 7 July 2026 09:40 (25 minutes)

We shall explore a method, initiated by Guichard in 1890, which allows to generate sequences of Voss surfaces by quadratures, starting from an arbitrarily chosen pseudospherical surface and a seed solution of the Moutard equation, by means of two simple transformations. In this talk we

- 1) identify the Guichard transformations with the well-known mutually inverse recursion operators for symmetries of the sine-Gordon equation;
- 2) present a lemma which allows us to derive the length of Guichard's sequences from the invariance properties of the initial sine-Gordon solution;
- 3) introduce an extended class of inverted operators, increasing the number of Voss surfaces obtainable by quadratures.

A number of Voss nets will be presented explicitly.

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