



High Energy Physics - Theory

Defects in the discrete non-linear Schrodinger model

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The discrete non-linear Schrodinger (NLS) model in the presence of an integrable defect is examined. The problem is viewed from a purely algebraic point of view, starting from the fundamental algebraic relations that rule the model. The first charges in involution are explicitly constructed, as well as the corresponding Lax pairs. These lead to sets of difference equations, which include particular terms corresponding to the impurity point. A first glimpse regarding the corresponding continuum limit is also provided.

Comments: 18 pages, Latex. Comments and clarifications introduced. One reference added

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