

Singularities of Bethe Ansatz via Robinson numbers

Jan Milewski,¹ Andrzej Koper,² and P. Krasoń³

¹*Institute of Mathematics, Poznań University of Technology,
ul. Piotrowo 3A, 60-965 Poznań, Poland*

²*Faculty of Physics, Adam Mickiewicz University,
Umultowska 85, 61-614 Poznań, Poland*

³*Department of Mathematics and Physics, Szczecin University,
70-415 Szczecin, al. Wielkopolska 15, Poland*

In this work we suggest a rigorous mathematical approach for explanation of singular solutions of Bethe Ansatz by means of Robinson numbers. There are several approaches towards these singular solutions. Our aim is to make them precise and show that they are essentially equivalent. The results will be explained using the sequential interpretation of Robinson numbers.