

Solvability Complexity Index

Sascha Hauch

AFG Oberseminar 12.7.2018

There are various famous problems which are not solvable in finite time such as computing spectra of operators and solving inverse problems. But in contrast to the finite case there is no established theoretical framework to categorise the complexity of such problems. The Solvability Complexity Index (SCI) aims to fill this gap by measuring how many limits we have to take into account while computing the solution of a given problem. In this talk, we will learn about the basic concepts in this area which are due to ANDERS HANSEN et al. Further, we will have a look at the complexity of computing spectra of finite and infinite matrices and see how the SCI comes into play.