

## DESINGULARIZATION OF ORE OPERATORS

**Manuel Kauers**

Johannes Kepler University, Linz, Austria  
manuel@kauers.de

Singularities of linear differential operators are points at which the numerical computation of solutions is cumbersome. In some cases, this is unavoidable because there is a solution which has a strange behaviour (e.g. a pole) at this point. But sometimes a singularity of a differential operator is only a "false alarm" and does not really correspond to a singularity of a solution. Such singularities are called apparent. Desingularization algorithms eliminate apparent singularities from a given operator. Such algorithms are known since the 19th century. In the talk, we will present a surprisingly simple desingularization algorithm that works not only for differential operators but for general Ore operators. This is joint work with Shaoshi Chen and Michael Singer (arXiv:1408.5512).

*Joint work with Shaoshi Chen (Chinese Academy of Sciences, China) and Michael F. Singer (North Carolina State University, USA).*