

1163-14-1345

**Paul Breiding\***, p.breiding@tu-berlin.de. *Certifying roots of polynomial systems using interval arithmetic.*

I will demonstrate a new function in the software HomotopyContinuation.jl that certifies if a true isolated solution of a system of polynomial equations is near an approximation given in 64-bit floating point numbers. The implementation is based on Krawczyk's method and uses Arb for interval arithmetic. (Received September 15, 2020)