

Roots of $\tan(x)$

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Abstract

We will find some roots in $\tan(x)$.

1 explanation

The inverse tangent can be found numerically by determining the roots of $\tan^{-1}(a) - x = 0$. This can in turn be done with the gsl one or multidimensional root-finding routines. The most efficient choice is presumably to use the one-dimensional root-finder with derivatives. However, we haven't chosen that method since the program anyway ran so quickly that speed was not an issue. Instead we have chosen the `gsl_multiroot_fsolver_hybrids` routine.

2 illustration

A graph of the inverse tangent can be seen on figure 2.

