

# Release Notes AIT 1.2

- **intoptimize**: this routine has been optimized and may run up to 6 times faster
- Guaranteed **matrix computations** are now available (+, -, \*, /, inv)
- **contractors**: contractors are supported in SIVIAC and INTOPTIMIZEC. Classic versions, without contractor, are still available: SIVIA and INTOPTIMIZE.

- **interval display**:

1) now supports most of the options defined by the matlab command FORMAT

ex:

```
format short
format short g
format short e
format long           % This format will produce rigorous display
format long g        % This format will produce rigorous display
format long e        % This format will produce rigorous display
format compact
format loose
```

2) now adapts the display of a matrix to match the command window size

- **intconnex**: this routine separates different solutions by splitting a list of intervals into connex branches
- **realroots**: this routine finds the guaranteed real roots of a polynomial
- **constraint propagation**: some SCALAR constraint propagation routines are available in the interval directory  
ex : +, -, /, \*, abs, ^2, horner, sqrt, exp, log, sin, cos, tan, asin, acos, atan
- **constructor**: interval(-inf) or interval(inf) is no longer supported. interval(-inf, inf) is still available.
- **empty interval** : Empty interval is now strictly defined by interval(NaN)
- **mathematics**: mathematic functions (log, sqrt) have been revisited to match their interval definition
- **visualization**: the singleton visualization bug has been fixed