DisPGB 2.0 Exhibition

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DisPGB is an algorithm for discussing parametric Gröbner bases, described in [1]. We present a thorough redesign of the algorithm in the new release 2.0 of the `DPGB` *Maple* library.

In this exhibition we will show the main features of the `DPGB20`. We will explain the most important improvements in this new release and display specific practical examples.

We will remark some key functions as:

- `dispgb` - the main algorithm for performing the discussion,
- `gencase` - which computes the minimal singular variety from the output of `dispgb`,
- `finalcases` - returns the data concerning the terminal cases of the output of `dispgb`,
- `tplot` - plots out the tree discussion provided by `dispgb`,
- `gge` - performs a generalized Gaussian elimination.

All of them are very practical and useful for handling systems of multivariate polynomials with parameters.

We will conclude our talk comparing CPU-times for this new release with an older release, and also observing the improvements made to the printing routines, which ouput a simpler discussion tree.

References

[1] A. Montes. New algorithm for discussing Gröbner bases with parameters. *J. Symbolic Comput.*, **33**(1-2):183–208, 2002.

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