

CoCoA-5 - Bug #1140

ImplicitModular: too many bad primes

14 Dec 2017 14:19 - John Abbott

Status:	Closed	Start date:	14 Dec 2017
Priority:	Normal	Due date:	
Assignee:	Anna Maria Bigatti	% Done:	100%
Category:	bug	Estimated time:	1.01 hour
Target version:	CoCoA-5.2.2	Spent time:	1.75 hour
Description			
In the example below ImplicitModular decides that it has found a "better prime", but after that all primes seem to be "bad". Very suspicious!			
<pre>----- source("../IdealsModP.cpkg5"); ----- SetVerbosityLevel(90); R ::= QQ[x,y,z,v,w]; Use S ::= QQ[s,t]; f1:= t^5*s^2 -s -1; f2:= s^3*t^2 +2*t^2 -t; f3:= t^2 +s*t -1; f4:=s^3-2*t+s; f5:= s^3-t^2; L := [f1, f2, f3,f4, f5]; T := CpuTime(); G:= implicit(R,L); TimeFrom(T); -- 4.643 T := CpuTime(); GM:= ImplicitModular(R,L,100); TimeFrom(T); -- 6.820</pre>			
This is just Renzo's example 3su6.cocoa5 (from IdealsModp) with starting prime 100.			
Related issues:			
Related to CoCoALib - Feature #587: port to CoCoALib: Homomorphism pkg (ker, ...		Closed	14 Jul 2014

History

#1 - 14 Dec 2017 14:25 - John Abbott

The critical prime appears to be 223.

If I start the calculation from p=223, it reports that all other primes are BAD.

But starting from 227 works OK.

#2 - 14 Dec 2017 14:54 - John Abbott

The defn of **IsPrecedingNoCheck** looks suspicious to me (compared to the defn in the article).

But changing the defn to what I think it should be has disastrous consequences for ex-bad.cocoa5

#3 - 14 Dec 2017 16:26 - Anna Maria Bigatti

- Status changed from New to Closed

- Assignee set to Anna Maria Bigatti

- % Done changed from 0 to 100

- Estimated time set to 1.01 h

this is related with implicit: it should (by default) return the ideal in a ring with weights, so that the generators are a GBasis.

#4 - 14 Dec 2017 16:26 - Anna Maria Bigatti

- Related to Feature #587: port to CoCoALib: Homomorphism pkg (ker, IsInjective, IsSurjective..) added

#5 - 16 Jan 2018 15:45 - John Abbott

- Target version changed from CoCoA-5.?.? to CoCoA-5.2.2