

CoCoALib - Feature #1582

Factorization in $K(a,b)[x,y]$

05 Mar 2021 09:35 - John Abbott

Status:	New	Start date:	05 Mar 2021
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:	Improving	Estimated time:	0.00 hour
Target version:	CoCoALib-0.99900	Spent time:	0.20 hour
Description			
Florian would like to have factorization of polynomial over a function field <i>e.g.</i> $QQ(a,b)[x,y]$.			
This would also permit implementation of primary decomposition for general ideals (not just 0-dim).			
Related issues:			
Related to CoCoALib - Feature #1580: New fn prim for polys			Closed 25 Feb 2021

History

#1 - 05 Mar 2021 09:37 - John Abbott

Presumably the following approach should work:

- map into $K[a,b,x,y]$ after clearing denoms
- discard any factors not involving x,y via a content computation
- factorize in $K[a,b,x,y]$
- map factors back into original ring

Looks easy! Well, not too horribly hard...

#2 - 12 Mar 2021 09:24 - John Abbott

- Related to Feature #1580: New fn prim for polys added

#3 - 07 Mar 2024 20:23 - John Abbott

- Target version changed from CoCoALib-0.99850 to CoCoALib-0.99900