

## CoCoALib - Feature #1132

### Canonical homomorphism for (some) polynomial rings?

30 Nov 2017 09:28 - Anna Maria Bigatti

<b>Status:</b>	New	<b>Start date:</b>	30 Nov 2017
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Anna Maria Bigatti	<b>% Done:</b>	0%
<b>Category:</b>	New Function	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	CoCoALib-0.99880	<b>Spent time:</b>	0.45 hour
<b>Description</b>			
It would be convenient to have an automatic homomorphism $P1 \rightarrow P2$ (differing only for ordering) which effectively is <code>PolyAlgebraHom(P1, P2, indets(P2))</code> .			
How should it be called? <code>CanonicalHom</code> ? but it is quite different from what <code>CanonicalHom</code> means now: a (one step) embedding/quotienting/...			
<code>CanonicalPolyAlgebraHom</code> would be good, but it's a bit long ;-)			
Should we also think of other canonical (non ambiguous) homomorphisms between polynomial rings?			
<b>Related issues:</b>			
Related to CoCoA-5 - Feature #7: Automatic mapping between (some) rings		<b>Resolved</b>	<b>20 Oct 2011</b>

#### History

##### #1 - 30 Nov 2017 10:00 - John Abbott

- Related to Feature #7: Automatic mapping between (some) rings added

##### #2 - 30 Nov 2017 10:04 - John Abbott

JAA thinks that **CanonicalHom** should be fairly general, and not just a "single-step". Perhaps the "single-step" version could be called **CanonicalHom1**?

##### #3 - 25 Jun 2018 12:07 - John Abbott

- Target version changed from CoCoALib-0.99600 to CoCoALib-0.99650 November 2019

##### #4 - 01 Oct 2019 12:02 - John Abbott

- Target version changed from CoCoALib-0.99650 November 2019 to CoCoALib-0.99800

##### #5 - 03 Nov 2021 16:54 - John Abbott

- Target version changed from CoCoALib-0.99800 to CoCoALib-0.99850

##### #6 - 08 Mar 2024 18:00 - Anna Maria Bigatti

Another convenient homomorphism would be a "BringIn-like" homomorphism (keeping the names of the indets: e.g.  $x$  maps to  $x$ )  
Should we call it **BringIn** as in CoCoA?

In CoCoA the meaning is slightly different, because the argument is a polynomial, not the homomorphism domain, so we could map  $x$  in  $K[x,y,z]$  into  $K[x]$ .

##### #7 - 08 Mar 2024 18:01 - Anna Maria Bigatti

- Target version changed from CoCoALib-0.99850 to CoCoALib-0.99880