

By McCool, there is an isomorphism

$$\Psi: wPB_n \longrightarrow \bigoplus_{i=1}^n F_n / F_n x_i$$

Allowing linear combinations, both sides have natural f.t. filtrations.

Question. Is Ψ a filtered map? } No!

Assuming so, it would induce

$$\text{gr}\Psi: A^{wb} \longrightarrow \bigoplus_{i=1}^n FA_n / FA_n x_i$$

Question. What is this map? Is it an isomorphism?

Note that the standard "scatter" map

$$\mathcal{P}A^{wb} \longrightarrow \text{tder}_n = \bigoplus_{i=1}^n FL_n / x_i$$

is injective but not surjective.

Question. Can one discover div in this context?