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# Hopf25

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## **(Co)Homology of Partial Smash Products**

Given a co-commutative Hopf algebra  $H$  over a commutative ring  $K$  and a symmetric partial action of  $H$  on a  $K$ -algebra  $A$ , we obtain a first quadrant Grothendieck spectral sequence converging to the Hochschild homology of the smash product of  $A\#H$  involving the Hochschild homology of  $A$  and the partial homology of  $H$ . An analogous third quadrant cohomological spectral sequence is also obtained. The definition of the partial (co)homology of  $H$  under consideration is based on the category of the partial representations of  $H$ .