

Step 2 Recall the Heft maps localized at \mathbf{f}

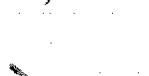
Theorem: 3 maps $h: \mathcal{RS}^{2n+1} \rightarrow \mathcal{RS}^{2p+1}$

such that $h: H(\mathcal{RS}^{2n+1}) \rightarrow H(\mathcal{RS}^{2p+1})$

is an epimorphism of coalgebras.

Corollary: The linear retraction $r: H(\mathbb{R}S^{2n+1}) \rightarrow \langle 1, e_1, \dots, e^{p-1} \rangle$ defines an isom Θ of right comodules

$$H(\sqrt{S}^{2n+1}) \xrightarrow{\Delta} H(\sqrt{S}^{2n+1}) \otimes H(\sqrt{S}^{2n+1})$$

 ↓ $\text{res} \otimes$
 $\langle 1, \dots, e^{p-1} \rangle \otimes H(\sqrt{S}^{2p+1})$

mod p, θ is an isom of coalgebras
and can be iterated to give the decomposition
of the previous lecture

$$H(\cup S^{(a+1)}) = \bigotimes_{k=0}^{\infty} \langle 1, \langle r^k, \dots, \rangle^{(a+1)r^k} \rangle$$

and leads to