ON H-SPACES OF FINITE DIMENSION

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Let $\underline{CW}_0$ be the homotopy category of pointed connected finite CW-complexes.

Theorem: Up to homotopy type there are only finitely many objects in $\underline{CW}_0$ of dimension $\leq N$ which admit a multiplication.

Corollary: Up to isomorphism of group objects in $\underline{CW}_0$ there are only finitely many group objects in $\underline{CW}_0$ whose underlying space is an object of $\underline{CW}_0$ of dimension $\leq N$. - The corollary does not hold if "group in $\underline{CW}_0$" is replaced by "H-space".

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