

Absolute co-extensors and inverse limits

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Abstract. Suppose that K is a CW-complex, \mathbf{X} is an inverse sequence of stratifiable spaces, and $X = \lim \mathbf{X}$. We have previously provided a necessary and sufficient condition for X to be an absolute co-extensor for K in terms of the inverse sequence \mathbf{X} and without recourse to any specific properties of its limit. To say that X is an absolute co-extensor for K is the same as saying that K is an absolute extensor for X , i.e., that each map $f : A \rightarrow K$ from a closed subset A of X extends to a map $F : X \rightarrow K$. We now use our characterization to provide a “local” condition on the inverse sequence that implies the absolute co-extensor condition on its limit. Since metrizable spaces are stratifiable, then this new information might prove useful in the theory of acyclic resolutions of noncompact metrizable spaces in the theory of cohomological dimension, especially in cases where the domain of the resolution must have dimension greater than that of its range.