



SwissMAP

The Mathematics of Physics
National Centre of Competence in Research

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The cell dispensability problem for spaces and manifolds

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We consider the following problem: when is a CW-space X homotopy equivalent to a CW-complex without j -cells for $k < j < r$?

We show that this is equivalent to some cohomology condition together with the vanishing of an algebraic K-theory “cell-dispensability obstruction”, analogous but not equal to the Wall finiteness obstruction. A similar theory holds for closed manifolds, replacing cells” by handles”.

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