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Section:

6. Topology

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A universal space for plus-constructions

We exhibit a two-dimensional, acyclic, Eilenberg–Mac Lane space W such that, for every space X, the plus-construction X^+ with respect to the largest perfect subgroup of $\pi_1(X)$ coincides, up to homotopy, with the W-nullification of X; that is, the natural map $X \to X^+$ is homotopy initial among maps $X \to Y$ where the based mapping space from W to Y is weakly contractible. This is joint work with A. J. Berrick.

Reference: A. J. Berrick and C. Casacuberta, A universal space for plus-constructions, *Topology*, to appear in 1998.