

Toposym 1

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Products of spaces by $[0, 1]$

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PRODUCTS OF SPACES BY $[0, 1]$

V. POENARU

Bucuresti

This is a very short summary of a forthcoming paper (see: “Rendiconti di Matematica e delle sue applicazioni”). The main result is the following:

Let V_3 be a compact 3-manifold such that $\pi_1(V_3) = 0$. Then there exists a number $n(V_3)$ such that if Σ is the main of the interiors of $n(V_3)$ 3-balls, differentiably embedded, we have:

$$(V_3 - \Sigma) \times [0, 1]^2 = (S_3 - \Sigma) \times [0, 1]^2.$$

(Equality means diffeomorphism.)

This result is a $[0, 1]$ -approximation of the Poincaré conjecture since it is easy to prove that this conjecture is equivalent to the following statement:

$$(V_3 - \Sigma) \times [0, 1] = (S_3 - \Sigma) \times [0, 1].$$

There are strong connections between this paper and a forthcoming paper of **BARRY MAZUR**.