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COMMENTATIONES MATHEMATICAE UNIVERSITATIS CAROLINAE
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CORRIGENDUM ET ADDENDUM AD "MINIMAL CELL COVERINGS OF SPHERE BUNDLES OVER SPHERES"

D. A. MORAN

It has been pointed out by Prof. Nelson Max [3] that the key step in the purported proof of the main theorem in [5] is in error. I have been unable to recover the full strength of that result, but I wish to delineate the circumstances wherein it has been proved. The terminology and notation of [5] will be used.

1. An easy argument employing the exact homotopy sequence of a bundle shows that M is k-connected, where $k = \min(p,q) - 1$. According to theorems of Luft [2] and of Osborne and Stern [6], it can be inferred from this that M can be covered by three cells if $\frac{1}{2}(p+1) \leq q \leq 2p-1$.

2. By Bott's famous computations, if $p \equiv 3$, 5 or 6 (mod 8) and $q + 2 > p$, then $\pi_{p-1}(SO_{q+1}) = 0$. For such p and q, all q-sphere bundles over a p-spheres are products, and can be covered by three cells.

3. If the fibration admits a global cross-section, M can be covered by three cells [4].

To my knowledge, the remaining cases are still open.

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