

Cohen, F. R.; Peterson, F. P.**Suspensions of Stiefel manifolds.** (English) Zbl 0555.55010

Q. J. Math., Oxf. II. Ser. 35, 115-119 (1984).

Let $V_{n,k}$ denote the Stiefel manifold of orthogonal k -frames in n -space and let $CV_{n,k}$ denote its complex analogue. Let $P_{n,k} = \mathbb{R}P^{n-1}/\mathbb{R}P^{n-k-1}$ and let $CP_{n,k} = \mathbb{C}P^{n-1}/\mathbb{C}P^{n-k-1}$. There are inclusions $P_{n,k} \rightarrow V_{n,k}$ and $\Sigma CP_{n,k} \rightarrow CV_{n,k}$ which are stable retracts. Let $r(n,k)$ denote the least r such that $\Sigma^r P_{n,k}$ is a retract of $\Sigma^r V_{n,k}$ and similarly $r(n,k,\mathbb{C})$ in the complex case. The authors obtain bounds on these numbers, thereby answering some questions posed by *I. M. James* [The topology of Stiefel manifolds, Lond. Math. Soc. Lect. Note Ser. 24 (1976; [Zbl 0337.55017](#))].

Reviewer: [V.Snaith](#)**MSC:**[55P40](#) Suspensions[55P42](#) Stable homotopy theory, spectraCited in **1** Review
Cited in **1** Document**Keywords:**

suspensions of Stiefel manifolds; stunted projective spaces; James numbers; stable retracts

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