

**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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