

Item: 1 of 1 | [Return to headlines](#)[MSN-Support](#) | [Help Index](#)Select alternative format: [BibTeX](#) | [ASCII](#)**MR1217699 (94c:57051)****[Hurder, Steven](#) (1-ILCC-MS)****A product theorem for  $\Omega B\Gamma_G$ . (English summary)****[Topology Appl.](#) 50 (1993), no. 1, 81–86.****[57R32 \(55R05 57R30\)](#)**[Journal](#)[Article](#)[Doc Delivery](#)**References: 0****Reference Citations: 0****Review Citations: 0**

Let  $B\Gamma_G$  be the classifying space of  $G$ -foliations and  $\nu: B\Gamma_G \rightarrow BG$  the classifying map for the normal  $G$ -vector bundle to the canonical foliated microbundle over  $B\Gamma_G$ . Main theorem: Suppose that the homotopy fiber  $F\Gamma_G$  of  $\nu$  is an  $N$ -connected space and there are subgroups  $K_1, \dots, K_l$  of  $G$  with  $\dim K_j \leq N$  ( $1 \leq j \leq l$ ) such that the multiplication map  $K_1 \times \dots \times K_l \rightarrow G$  is a homotopy equivalence. Then one gets a homotopy splitting of loop spaces,  $\Omega B\Gamma_G \cong G \times \Omega F\Gamma_G$ . In the proof, the author uses the canonical (up to homotopy) action  $G \times F\Gamma_G \rightarrow F\Gamma_G$  and then shows that  $\delta: \Omega BG \rightarrow \Gamma_G$  is homotopic to a constant. This homotopy splitting is applied to obtain integrability of some distributions up to homotopy on a manifold with the homotopy type of a suspension.

**Reviewed by [H. Suzuki](#)****© Copyright American Mathematical Society 1994, 2004**