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*Alternating sign multibump solutions of nonlinear elliptic PDEs in expanding tubular domains*

Let  $\Gamma$  denote the image of a smooth embedding of the circle  $S^1$  in  $\mathbb{R}^N$ ,  $N \geq 2$ . Denote by  $\Omega_R$  the open normal tubular neighborhood of  $R\Gamma$  of radius 1. Consider the superlinear problem  $-\Delta u = f(u)$  on the expanding domains  $\Omega_R$  (i.e., as  $R \rightarrow \infty$ ) with homogeneous Dirichlet boundary conditions. We prove the existence of multibump solutions with bumps lined up along  $R\Gamma$  and with alternating signs. Here we allow nonodd functions  $f$ .