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**Résolution numérique d'un problème d'océanographie physique non linéaire par la méthode de Galerkin. (Numerical solution of a nonlinear physical oceanographic problem by the Galerkin's method).** (French) [Zbl 0735.76049](#)  
C. R. Acad. Sci., Paris, Sér. I 313, No. 9, 627-630 (1991).

Summary: This note points out the main numerical results concerning a nonlinear problem of two-dimensional oceanic circulation. Using a peculiar eigenfunction basis, the nonlinear terms can be treated in a particular suitable way such that the time needed by a finite difference method for solving the problem is reduced in a large part. [See also *A.Hertzog* and *P. Orenga*, *ibid.* 313, No. 12, 887-893 (1991; [Zbl 0735.76026](#))].

**MSC:**

**76M25** Other numerical methods (fluid mechanics) (MSC2010)

**65N30** Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs

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**Keywords:**

[Galerkin method](#); [nonlinear problem](#); [two-dimensional oceanic circulation](#)