

5个孤岛外,在上下二个不动点周围同样可看出有5个孤岛存在。图2(d)比图2(a)(b)好,但不如(c),因为隐式格式每次需要迭代,辛性质保证不如显式好,欲使辛保证好需要多迭代,但则要增加计算时间。

### 参 考 文 献

- [1] Kang, Feng, On Difference schemes and symplectic geometry, *Proceedings of the 1984 Beijing Symposium on Differential Geometry and Differential Equations—COMPUTATION OF PARTIAL DIFFERENTIAL EQUATIONS*, ed. Feng Kang, Science Press, Beijing, (1985) 42-58.
- [2] Kang, Feng, Difference schemes for Hamiltonian formalism and symplectic geometry, *JCM*, 4: 3(1986), 279-289.
- [3] Kang, Feng, Symplectic geometry and numerical methods in fluid dynamics, *Proceedings of the 10<sup>th</sup> International Conference on Numerical Methods in Fluid Dynamics*, Beijing, (1986) Lecture Notes in Physics, V. 264, 1-7, ed. F. G. Zhuang and Y. L. Zhu, Springer Verlag.
- [4] Kang, Feng, Canonical difference schemes for Hamiltonian canonical differential equations, *Proceedings of International Workshop on Applied Differential Equations*, June (1985) Beijing, 59-73, World Scientific, Singapore (1986).
- [5] Kang, Feng, and Qin Meng-zhao, The symplectic methods for the computation of Hamiltonian equations, *Proc. of 1st Chinese Conf. on Numerical Methods of PDE's*, March (1986) Shanghai, Lecture Notes in Mathematics, No. 1297, 1-37, ed. Zhu You-lan and Guo Ben-yu, Springer, Berlin (1987).
- [6] Kang, Feng, Hua-mo, Wu, Meng Zhao, Qin and Dao-liu, Wang, Construction of Canonical difference schemes for Hamiltonian formalism via generating functions, *J. Comp. Math.* 7:1 (1989).
- [7] Chun wang, Li and Qin Meng-zhao, A symplectic difference scheme for the infinite dimensional Hamiltonian system, *JCM*, 6:2 (1988).
- [8] Chun wang, Li, Numerical calculation for Hamiltonian systems, Master thesis, Computing Center, Academia Sinica (1986).
- [9] Dao liu, Wang, Semi-discrete Fourier spectral approximations of infinite dimensional Hamiltonian systems: Conservation laws, to appear.
- [10] Dao liu, Wang, Symplectic numerical methods for Hamiltonian systems, Ph. D. dissertation, Computing Center, Academia Sinica (1988).
- [11] Meng zhao, Qin and Zhang Mei-qing Symplectic Runge-Kutta Schemes For Hamiltonian Systems to appear.
- [12] Hénon, M. and Heiles, C., The applicability of the third integral of motion, *Astron. J.* 69 (1964) 73.
- [13] Gustavson, F. G., On Constructing Formal Integrals of a Hamiltonian System Near an Equilibrium point. *The Astron. J.*, 71, 8 (1966) 670-686.
- [14] Meng zhao, Qin, Dao liu, Wang and Mei qing, Zhang, Explicit symplectic difference schemes for separable Hamiltonian systems, submitted to *J. Comp. Math.*

## 全国第三届生物固体力学讨论会召开

第三届全国生物固体力学讨论会于1990年7月16日至22日在安徽省歙县召开。来自全国31个单位的54名代表参加了讨论会,交流论文53篇。

这次讨论会上交流的论文,在深度和广度上均较以前有了明显的提高;除了骨力学、齿力学和人体多刚体模型等方面的研究外,已经开始有文章探讨眼力学和周围神经的力学模型了。在讨论会期间,许多报告引起了与会者的极大反响,例如:“利用ABI(分析用的骨植入物)研究骨的生长及其特性”(美国西南研究所的Winter博士)、“矫形外科用生物材料概况”(第四军医大学唐农轩教授)、“口腔修复应用生物力学的国内研究进展情况”(北京医科大学口腔医院周书敏教授)、“腓骨是承重骨吗?”(上海瑞金医院曲克服副教授)、“眼力学的几个问题”(太原工业大学吴文周副教授)、“关于生物固体力学”(西北建工学院孙家驹教授)

等。

与前两届相比,这次讨论会有两个显著特点:一是来自医学界的代表明显增多,这说明生物力学正越来越多地受到我国医学界人士的重视,而这也正是我国生物力学学科发展所不可缺少的重要因素;二是注意吸引年轻同志参加讨论会,为更多的青年学者参与全国性的学术交流创造了条件,共有15名30岁以下的年轻代表参加了这次讨论会。

通过这次讨论会,代表们普遍认识到,在今后的工作中应注意加强多学科研究(包括力学、医学、生物学和生物化学等学科),不断开拓新的研究领域,探索新的研究方向,并注意做好研究生的培养工作,从而把我国的生物力学研究水平推到一个新的高度。

(何林)