

数学与系统科学研究院

计算数学所学术报告

报告人: 张翔教授

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报告题目:

**Algorithms for Finding the Roots of
Some Quadratic Octonion Equations**

邀请人: 白中治 研究员

报告时间: 2014年6月7日(周六)

上午 10:30-11:30

报告地点: 科技综合楼三层 301

计算数学所小报告厅

Abstract:

In this talk, we give an algorithm to find the roots of the octonionic quadratic equation $x^2+bx+c=0$ and develop a method to find solutions. Some numerical examples are provided to explain the results. We also discuss how to find the roots of some other octonion quadratic equations, such as an algorithm is given for finding the roots of the octonion quadratic equation $ax+bx+c=0$. We study the practical two-term acceleration algorithm, and the interval of the parameter which guarantees the convergence of the acceleration algorithm is analyzed in detail. Further, the acceleration ratio of the new acceleration algorithm is obtained in advance. The new acceleration algorithm is less sensitive to the parameter than the Chebyshev semi-iterative method. Finally, some numerical examples show that the accelerated algorithm is effective.

欢迎大家参加!