

论文

全序极小锥

杜一宏

山东大学数学系, 济南

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摘要 本文引进全序极小锥的概念,讨论了全序极小锥与正则锥、正规锥、极小锥及强极小锥的关系,改进了[1]中的几个结果和[11]的主要定理。按照[1]中定义,Banach空间 E 中锥 P 称为强极小的,如在 P 诱导的半序下, E 中任何按序有上界的子集都有最小上界; P 称为极小的,如 E 中任二元 x, y 都有最小上界; P 称为正规的,如 $\exists N > 0$,使得 $0 \leq x \leq y$ 时, $\|x\| \leq N\|y\|$; P 正规 $\Leftrightarrow \exists \delta > 0$,使得 $x, y \in P, \|x\| = \|y\| = 1$ 时, $\|x+y\| \geq \delta$ $\Leftrightarrow E$ 中任何序区间 $[x, y]$ 都有界 $\Leftrightarrow x_n \leq z_n \leq y_n$, 且 $x_n \rightarrow z, y_n \rightarrow z$ 时必有 $z_n \rightarrow z$ (参看[3]第三章); P 称为正则的,如 E 中任何单调递增且有上界的序列都是收敛的,即 $x_1 \leq x_2 \leq \dots \leq x_n \leq \dots \leq x_0$, 则...

关键词

分类号

TOTAL ORDER MINIHEDRAL CONES

DU YI-HONG

Department of Mathematics, Shandong University

Abstract A cone P in a Banach space E is called total order minihedral, if, under the partial ordering introduced by P , every upper bounded total ordering set in E has a minimal upperbound. The main results of this paper are the following. Theorem 1. Regular cones are total order minihedral, but the converse is not true. Theorem 2. If Banach space E is weakly sequence complete, and P is a cone in E , then the following statements are equivalent: i) P is normal, ii) P is total order minihedral, iii) P is regular, iv) P is fully regular. Theorem 3. Suppose P is a total order minihedral cone. If, in addition, P is minihedral, then P is strongly minihedral. Theorem 4. There exist total order minihedral cones which are not minihedral; there exist minihedral cones which are not total order minihedral.

Key words

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