

The Unit Ball of $\mathcal{L}_s({}^2l_\infty)$

SUNG GUEN KIM

*Department of Mathematics, Kyungpook National University
Daegu 702-701, South Korea, sgk317@knu.ac.kr*

Presented by Jesús M.F. Castillo

Received September 24, 2008

Abstract: We classify the extreme, exposed and smooth points of the unit ball of the space of symmetric bilinear forms on the 2-dimensional real spaces l_∞^2 .

Key words: Symmetric bilinear forms, extreme points, exposed points, smooth points.

AMS Subject Class. (2000): 46A22.

REFERENCES

- [1] Y.S. CHOI, H. KI, S.G. KIM, Extreme polynomials and multilinear forms on l_1 , *J. Math. Anal. Appl.* **228** (1998), 467–482.
- [2] Y.S. CHOI, S.G. KIM, The unit ball of $\mathcal{P}({}^2l_2^2)$, *Arch. Math. (Basel)* **71** (1998), 472–480.
- [3] Y.S. CHOI, S.G. KIM, Extreme polynomials on c_0 , *Indian J. Pure Appl. Math.* **29** (1998), 983–989.
- [4] Y.S. CHOI, S.G. KIM, Smooth points of the unit ball of the space $\mathcal{P}({}^2l_1)$, *Results Math.* **36** (1999), 26–33.
- [5] Y.S. CHOI, S.G. KIM, Exposed points of the unit balls of the spaces $\mathcal{P}({}^2l_p^2)$ ($p = 1, 2, \infty$), *Indian J. Pure Appl. Math.* **35** (2004), 37–41.
- [6] S. DINEEN, “Complex Analysis on Infinite-Dimensional Spaces”, Springer Monographs in Mathematics, Springer-Verlag London, Ltd., London, 1999.
- [7] B.C. GRECU, Geometry of 2-homogeneous polynomials on l_p spaces, $1 < p < \infty$, *J. Math. Anal. Appl.* **273** (2002), 262–282.
- [8] S.G. KIM, Exposed 2-homogeneous polynomials on $\mathcal{P}({}^2l_p^2)$ for $1 \leq p \leq \infty$, *Math. Proc. R. Ir. Acad.* **107** (2007), 123–129.
- [9] S.G. KIM, S.H. LEE, Exposed 2-homogeneous polynomials on Hilbert spaces, *Proc. Amer. Math. Soc.* **131** (2003), 449–453.
- [10] R.A. RYAN, B. TURETT, Geometry of spaces of polynomials, *J. Math. Anal. Appl.* **221** (1998), 698–711.