Re: Winternitz Theorem

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Date: 09/26/04

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Date: Sun, 26 Sep 2004 02:00:04 +0000 (UTC)
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Dan Luecking wrote:

> On Fri, 24 Sep 2004 14:00:06 +0000 (UTC), Gerry Myerson
> <gerry@maths.mq.edi.ai.i2u4email> wrote:
>
> >In article <civrimkmg1@news.ks.uiuc.edu>,
> > andreas wagener <108076@gmx.net> wrote:
> >
> >
> >Here's something from Math Reviews that may be of use.
> >
> >MR1099773 (92e:52010)
> > Scott, P. R.(5−ADLD)
> > On the union of convex bodies with no interior point in common.
> > Mathematika 37 (1990), no. 2, 245−−250.
> >52A35 (52A20)
> >
> > Let $K_1,\cdots,K_{d+1}$ be $d+1$ convex bodies in d−dimensional
> >Euclidean space which have no interior point in common. The author shows
> >that $m(\bigcup_iK_i)\geq C_d\min_jm(K_j)$, where i and j vary from
> >1 to $d+1$, C_d is a constant depending only on the dimension and
> >$m(·)$ is the measure of the set.
>
> Am I missing something? How is this not trivial with $C_d = d+1$?

Presumably "no interior points in common" means none
common to *all* the K_i, not that the K_i are disjoint.
Of course it *is* trivial with C_d = 1, so presumably
the paper proves a little more than that brief statement
suggests :−).

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Gareth McCaughan
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