Re: does a mean vector exist?

Source: http://sci.tech−archive.net/Archive/sci.math/2006−06/msg01950.html

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- *Date*: 12 Jun 2006 13:18:45 −0700

Hi Mike,

I agree. But I would like to put it in more simple terms.

To find the mean requires two operations.

1 is to add and the other to divide.

Vectors chart the continuum. There is nothing finite or discrete about them.

Therefore, an infinite continuum cannot be added or divided, esp. if it is 'continuous.'

There is no such thing as omega + 1 unless you generalize the omega into an arbitrary bounded structure with + 1 as another separate and discrete number. Now they are two discrete sets coarsely united with the '+' sign.

There is also no such thing as ½ or 1/3 of infinity either. That would not make sense.

Vectors insofar as they describe direction and magnitude do not denote anything **internally discrete.***

However, what is external is a different matter.

They chart the continuum. Therefore, there might not be anything call an internal 'mean vector.'

There might be a mean vector if we externalize and generalize the continuum. What is internal to the vector set is inexhaustible and ever−flowing. But what is external to the vector set might be finite and discrete. If you have something that is finite and discrete externally, then there is such a thing as a mean vector.

However, if what is external i.e. V = (v1 + v2 + ... + vn) / n moves into the infinite, then there is no mean vector. You would have to encase or generalize that to an external boundary set in order to do any normal finite operation, such as looking for the arithmetic mean.

B.T.
drmwecker@xxxxxxxxx wrote:

> Jack: If there are finitely many vectors, say v1, v2, ..., vn, then how
> about
>
> V = (v1 + v2 + ... + vn) / n ?
>
> This could apply to any kinds of vectors, not just physical vectors in
> 3−space.
>
> If there are infinitely many vectors, extending to an integral to get a
> mean value ought to be analogous to the extension of a finite sum to an
> integral. But there is a crucial difference: We usually consider and
> define mean value of a single function over an interval!
>
> Without some notion of an interval, I am not clear as to how to
> extend...
>
> Best, Mike
>
> Jack wrote:
>
>> If I take a whole bunch of vectors and integrate them, is it possible
>> to
>> find a mean vector that approximates the "flow" of such vectors?
>> e.g.
>> XXX
>> XX
>> XX
>>
>> I will get
>> X
>> X
>> X
>>
>> Hope you understand
>> Thanks
>> Jack

.