

Re: Dirac–Delta function

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"A N Niel" <anniel@nym.alias.net.invalid> wrote in message
news:021020042211149692%anniel@nym.alias.net.invalid...

> *It is a "generalized function" or a "distribution". Mathematicians
> cover these in a course known as "Functional Analysis". Maybe you
> will take that course one day.*

>

I'm not sure what you mean. It has been expressed multiple ways. In each course, it is taught slightly differently. I searched online and there are so many forms of it that it tends to make me think not so nice things about "it." I say "it" because it seems that many of the things that are said to be the same dirac delta function are not the same at all. Unless the "function" is pathological, lol.

There is also the kronecker delta function taught in relation to tensor notation.

$\delta_{a,b} = \{ 1 \text{ if } a = b, 0 \text{ if } a \neq b \}$ where a and b are einstein index notation indices.

That seems to me to be the same object but for discrete cases. When continuous cases occur, the object becomes the dirac delta function.

The dirac delta is said to have a limit over infinity of 1 but be infinite at 1 and 0 everywhere else, or some other nonsense.

I'm starting to think that this is some sort of object that when used in specific ways and specific situations, just happens to result in desired outcomes. It doesn't seem logical at all.

> *True. Perhaps you can convince the theoretical physicists to stop using
> it.*

> *But I wouldn't count on it.*

>

More and more areas of physics are using it as time goes on. Dirac gave it to us for good. I'd rather take longer to do mathematics, but have an actual understanding of it and have it use common logic, than to use some strange thing in strange ways to save time or simplify notation. However, that's just me.