

Re: Seeking diagrammatic tensor notation tutorial or reference

Source: <http://sci.tech-archive.net/Archive/sci.physics/2006-05/msg00336.html>

- *From:* "Herb Martin" <news@xxxxxxxxxxxxxxxx>
 - *Date:* Thu, 04 May 2006 01:17:21 GMT
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Online, look through John Baez's website,

Thanks — I haven't found anything there yet, but there are so many goodies on John Baez's site that I almost always get distracted reading something cool <grin>

I can't remember how much detail he goes into there but you may find more detail in *_Spinors and Space-Time_* by Penrose & Rindler. IIRC

That's one of the references in "The Road to Reality".

Thanks again.

I am pretty sure that Cvitanovic's diagrams are only loosely similar to Penrose's but I listened to part of Cvitanovic's online (RealVideo) talk with slides today and was making a lot more sense out of this.

http://www.physics.rutgers.edu/het/video/05_18_04.html
(linked off Cvitanovic's website too)

Penrose and Cvitanovic both seem to indicate that this is a very good way to deal with many of the complications.

Do other people follow this, use these notations, or use something of similar? (As opposed to not using diagrams as a primary or featured tool.)

One problem with searching for terms such as "Penrose diagrams" is that people use this to reference his cosmology diagrams.

Re: Seeking diagrammatic tensor notation tutorial or reference

Herb Martin

"Nathan Urban" <nurban@xxxxxxxxxxxxxxxxxxxx> wrote in message
news:e3bade\$c9tu\$1@xxxxxxxxxxxxxxxxxxxx

In article <j_Y5g.105\$Qq.10@xxxxxxxxxxxxxxxxxxxx>, "Herb Martin"
<news@xxxxxxxxxxxxxxxx> wrote:

I am seeking diagrammatic tensor notation tutorial or reference
preferably online or downloadable.

Online, look through John Baez's website,

<http://math.ucr.edu/home/baez/>

He writes about that from time to time in this This Week's Finds
series (although I don't know which issues), and has written some
related papers. You may be able to find some in his "Serious Stuff"
page as well as his "Quantum Gravity Seminar". The latter is probably
your best bet for an intro.

In "The Road to Reality" Penrose introduces this diagramming
method but largely hand waves passed the rules, syntax, etc.

I can't remember how much detail he goes into there but you may find
more detail in Spinors and Space-Time by Penrose & Rindler. IIRC
one of the appendices discusses diagrammatic tensor notation. You can
also go to a university library and hunt down Penrose's "Applications
of Negative Dimensional Tensors", in Combinatorial Mathematics and Its
Applications, ed. D. Welsh, Academic Press, New York, 1971, pp. 221-244.