
Subject: Re: Hypergeometric functions

Posted by [Ralf Flicker](#) on Tue, 30 Oct 2001 06:34:17 GMT

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Craig Markwardt wrote:

>

> Ralf Flicker <rflicker@gemini.edu> writes:

>

>> Does anybody know of an available IDL implementation for
>> generalized hypergeometric functions ? I need in particular
>> ${}_2F_3(a,b;c,d,e;z^2)$, which is absolutely convergent for all real
>> z . I can't seem to find anything among the standard sources, but
>> thought I'd check here before I start coding it myself.

>

> Hi Ralf--

>

> I see you haven't gotten a response to this question for the past
> several days. I think the answer is that IDL is pretty weak on
> special functions, although it does have a few.

>

> However, the particular hypergeometric function you are seeking is
> rather esoteric. I cannot find it in the GNU scientific library, nor
> in CEPHES. These are two C libraries of special functions. [Nor,
> for that matter, can I find it cursorily in Abramowitz & Stegun.] It
> looks like you will have to code this yourself.

>

> If it's really convergent then it should be rather simple to code the
> series directly.

Yes, that's what I ended up doing, and it works fine. I realize the function is somewhat special (the only substantial reference to ${}_2F_3$ that I could find on the web was to a Mathematica implementation), but I was partly fishing for information in general about these kinds of special functions. As you say, IDL is a mite weak on this point.

ralf

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