

**Subject:** Re: Pion form factor extraction from data  
**From:** Robert Perry <perryrobertjames@gmail.com>  
**Date:** 04/02/2024, 12.56  
**To:** huberg@uregina.ca

Hi Garth,

Happy new year. Please see the git repo at:

<https://github.com/robertjperry/pion-electroproduction-GIVGL->

Code for the four structure functions is written in python and is found in dsigma.py and an example of its use is in fit\_model.py. I wrote it using python 2, so a couple of print statements may need to be replaced with print() to get things going. Let me know if there are other issues. I should note, that while our model was designed to include the relevant physics for  $ds_L/dt$ , we did include relevant physics required for the description of the other structure functions. You may wish to modify the pion and nucleon mass - these parameters are found in parameters.py. Please let me know if you need more details to get things going. Sorry it took so long!

Cheers,  
Robert.

On Wed, Jan 3, 2024 at 5:36â€PM Garth Huber <[huberg@uregina.ca](mailto:huberg@uregina.ca)> wrote:

Hi Robert,

I hope you had a good holiday.â€ I just wanted to see how far you got on this, and to make sure it doesn't get forgotten.

Many thanks and Happy New Year,  
Garth

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Robert Perry wrote:

> Hi Garth,

>

> Thanks for the gentle nudge. I have put some code together to compute  
>  $dsig(L,T,TT,TL)/dt$  according to our model. I had to extend the existing code  
> because we only used dsigL in the original fits. It is my understanding that  
> dsigL is particularly sensitive to the pion form factor. In general, I would say  
> that our model does not do a particularly good job of predicting the other  
> functions. If I recall correctly, this issue is also observed for the VGL model.  
> I would like to do a couple more checks to make sure that my extensions to the  
> code are consistent, but I think things are mostly done. Do you intend to use  
> more than dsigL in your fits?

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> Cheers,

> Robert.

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