Jason Byrne <jbyrne6@gmail.com>

Paper

11 messages

David Long <long.daithi@gmail.com> **29 January 2009 12:07**
To: Peter Gallagher <peter.gallagher@tcd.ie>, James McAteer <rtjmca@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>, Jason <jbyrne6@gmail.com>

Hi

Do you want to meet up at some point to discuss changes/alterations/tweaks to the Solar Physics paper? I'm sure we don't want to be caught out by the re-submission deadline.

Thanks

--
David Long
Astrophysics Research Group
School of Physics
Trinity College
College Green
Dublin 2
www.maths.tcd.ie/~dlong

Peter Gallagher <peter.gallagher@tcd.ie> **29 January 2009 17:34**
To: David Long <long.daithi@gmail.com>
Cc: James McAteer <rtjmca@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>, Jason <jbyrne6@gmail.com>

... when is the deadline?

Peter T Gallagher PhD
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David Long <long.daithi@gmail.com> **29 January 2009 17:36**

To: Peter Gallagher <peter.gallagher@tcd.ie>
Cc: James McAteer <rtjmca@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>, Jason <jbyrne6@gmail.com>

The deadline is the 14th February - eight weeks from receipt of the referees report.

2009/1/29 Peter Gallagher <peter.gallagher@tcd.ie>

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Jason Byrne <jbyrne6@gmail.com> **30 January 2009 10:11**
To: David Long <long.daithi@gmail.com>
Cc: Peter Gallagher <peter.gallagher@tcd.ie>, James McAteer <rtjmca@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>

Howayas,

Just a bit of Friday randomness: the kinematics that we derive using DERIV look like standing waves to me! Nothing to do with the EIT waves or the CMEs themselves, but purely looking at how the derivative performs looks like increasing the frequency in a standing wave tube or whatever! Question; why does it take this form instead of the end points jumping in some other fashion to not observe this trend across so many data sets? Eg in this image linked below if the heights are taken as the dashed line in the top image from the first node, then the velocity and accleration curves look like the higher orders...
http://openlearn.open.ac.uk/file.php/3524/TA212_2_016i.jpg

I think it's gas is all.

Jason Byrne <jbyrne6@gmail.com> **30 January 2009 14:34**
To: David Long <long.daithi@gmail.com>, Peter Gallagher <peter.gallagher@tcd.ie>

Hey,

So very crude simulation to plot acceleration profile and back calculate the velocity and height profiles purely from the equations of motion (solid lines) with the operation of the DERIV applied to the heights to obtain velocity and acceleration curves (dashed lines). This is a data set of ten. See how the derivative forces its innate 'pattern' onto the kinematics?! And it creates quite a different interpretation of the acceleration/forces acting than a simple analytical approach.

2009/1/30 Jason Byrne <jbyrne6@gmail.com>

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--
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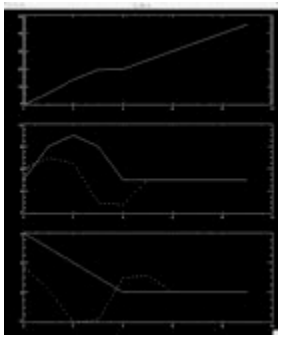

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Peter Gallagher <peter.gallagher@tcd.ie> **30 January 2009 14:42**
To: Jason Byrne <jbyrne6@gmail.com>
Cc: David Long <long.daithi@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>, James McAteer <james.mcateer@tcd.ie>, Shane Maloney <shane.maloney98@gmail.com>

Jez, that is a worry all right. It really shows you how DERIV really can return v(t) and a(t) curves which are completely different to the actual profiles.

!!!!

PEter

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On 30 Jan 2009, at 14:34, Jason Byrne wrote:

> 2009/1/30 Jason Byrne <jbyrne6@gmail.com>
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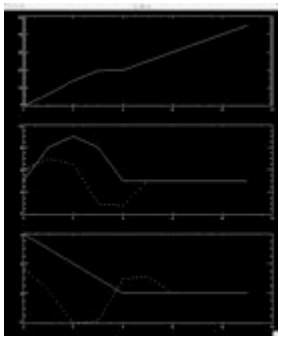

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Jason Byrne <jbyrne6@gmail.com> **30 January 2009 14:46**
To: Peter Gallagher <peter.gallagher@tcd.ie>
Cc: David Long <long.daithi@gmail.com>, Shaun Bloomfield <shaun.bloomfield@tcd.ie>, James McAteer <james.mcateer@tcd.ie>, Shane Maloney <shane.maloney98@gmail.com>

Here's the code and you can input more data points / tell me if it's sound or too crude or what!

2009/1/30 Peter Gallagher <peter.gallagher@tcd.ie>

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On 30 Jan 2009, at 14:34, Jason Byrne wrote:

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Shaun Bloomfield <shaun.bloomfield@tcd.ie> **30 January 2009 14:56**
To: Peter Gallagher <peter.gallagher@tcd.ie>
Cc: Jason Byrne <jbyrne6@gmail.com>, David Long <long.daithi@gmail.com>, James McAteer <james.mcateer@tcd.ie>, Shane Maloney <shane.maloney98@gmail.com>

I take it the plot panels are height-time (top), velocity-time (middle), and acceleration-time (bottom)?

Why does the velocity decrease after t=2 when there is still positive acceleration up to t=4? I would have thought that the acceleration profile decreasing linearly through positive values followed by a period of constant zero acceleration would result in a velocity profile which continually increases in magnitude up to the time where the acceleration becomes zero, followed by a period of constant velocity?

Shaun.

D. Shaun Bloomfield, PhD

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On 30 Jan 2009, at 14:34, Jason Byrne wrote:

2009/1/30 Jason Byrne <jbyrne6@gmail.com>
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Jason Byrne <jbyrne6@gmail.com> **30 January 2009 16:23**
To: Shaun Bloomfield <shaun.bloomfield@tcd.ie>
Cc: Peter Gallagher <peter.gallagher@tcd.ie>, David Long <long.daithi@gmail.com>, James McAteer <james.mcateer@tcd.ie>, Shane Maloney <shane.maloney98@gmail.com>

I agree. Must be something wrong with the equations of motion. I think it could be the use of initial velocity in the calculations...

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To: Shaun Bloomfield <shaun.bloomfield@tcd.ie>
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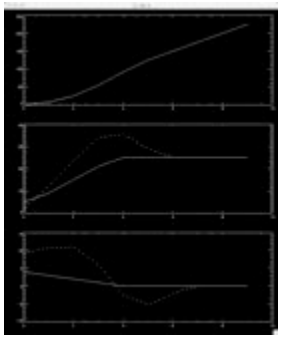
I wasn't iteratively calculating the changes v_i+t - v_i (new attached); I can still highlight the pattern of influence on the kinematics which is what I'm trying to get at with this...

still only crude tho!



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Shaun Bloomfield <shaun.bloomfield@tcd.ie> **30 January 2009 16:38**
To: Jason Byrne <jbyrne6@gmail.com>
Cc: Peter Gallagher <peter.gallagher@tcd.ie>, David Long <long.daithi@gmail.com>, James McAteer <james.mcateer@tcd.ie>, Shane Maloney <shane.maloney98@gmail.com>

> I wasn't iteratively calculating the changes v_i+t - v_i (new attached); I can still highlight the pattern of influence on the kinematics which is what I'm trying to get at with this...
>
> still only crude tho!

Looks a lot better. I take it your point is that the 3-point Lagrangian derivative method is wrong? It certainly looks as though it is 'overshooting' the input velocities

Is there an even more simple method than the 3-point one? It would be interesting to see what it looks like in comparison.

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