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Subject: PDG ID of light ions  
Posted by [Oleg](#) on Thu, 11 Aug 2016 12:43:20 GMT  
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Are there PDG IDs of the ions from t to let say Be?  
If I see the original PDG tables, there are no,  
but in R3BRoot one can set a very long number for t or alpha and they seems to be generated.

Is there a list of PDG IDs available in FAIRRoot/R3BRoot?

Oleg.

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Subject: Re: PDG ID of light ions  
Posted by [Dmytro Kresan](#) on Fri, 12 Aug 2016 07:09:53 GMT  
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I am not aware of such list. FairRoot uses TDatabasePDG class to handle PDGs.

But PDG for ions will not help you. This long generated PDG is for internal Geant usage. Input ions have to be specified by setting Z and A in R3BlonGenerator or in AsciiGenerator, which will properly register a new ion in transport code.

Best regards,  
Dima

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Subject: Re: PDG ID of light ions  
Posted by [Oleg](#) on Mon, 15 Aug 2016 12:00:44 GMT  
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We have strange problem with Alphas (4He).  
Should it work with AsciiGenerator - as the ion with A = 4 and Z = 2?  
Up to now does not work.

Oleg.

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Subject: Re: PDG ID of light ions  
Posted by [Dmytro Kresan](#) on Mon, 15 Aug 2016 12:14:26 GMT  
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Please post the line of your ASCII file where the alpha is defined. Yes, it should work with Z=2 and A=4. Do not forget -1 as first parameter. Example event:

```
0 1 0. 0.  
-1 2 4 px py pz vx vy vz 3.727379508
```

Or, alternatively, the Ion generator in r3ball.C:

```
R3BlonGenerator *gen = new R3BlonGenerator(2, 4, 2, 10, 0., 0., 1.); // 10 alpha's with pz = 1 GeV  
primGen->AddGenerator(gen);
```

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Subject: Re: PDG ID of light ions  
Posted by [Oleg](#) on Mon, 15 Aug 2016 12:21:57 GMT  
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```
0 1 0.0 0.0  
-1 2 4 0.00 0.00 60.00 0.00 0.00 -40.00 3.7273
```

=====  
### Run 0 start.

```
-I- R3BAsciiGenerator: Reading Event: 0, pBeam = 0GeV, b = 0 fm, multiplicity 1  
-W- R3BAsciiGenerator::ReadEvent: Cannot find Ion_4_2 in database!
```

```
TG4PrimaryGeneratorAction::TransformPrimaries:  
No primary particles found on the stack.  
*** TG4Exception: Aborting execution ***
```

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Subject: Re: PDG ID of light ions  
Posted by [Dmytro Kresan](#) on Wed, 17 Aug 2016 11:10:17 GMT  
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The fix for not recognised Alpha particle is already committed to central repository (dev branch).

Best regards,  
Dima