

Convert ${}^9\text{Li}/{}^8\text{He}$, IBD generators into GenTool style classes

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Convert ${}^9\text{Li}/{}^8\text{He}$ into GenTool style class

- Location:

dybgaudi/trunk/Generators/Li9He8Decay

- Attributes:

RandomSeed=1234567,
Li9fraction=0.90,
CompleteDecay=0.

```
from Li9He8Decay.Helpers import Decay
decay=Decay()

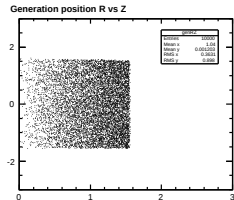
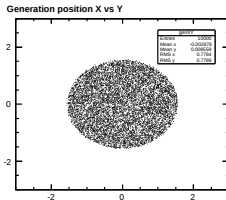
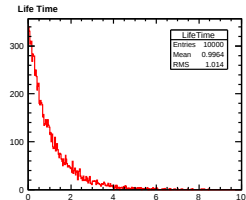
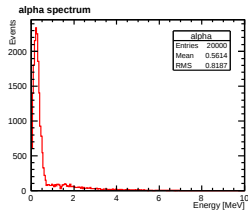
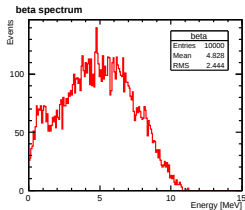
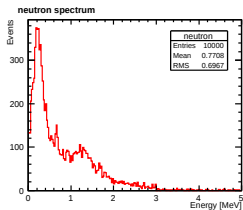
decay.decay.Li9fraction = 0.9
# decay.decay.CompleteDecay = 1
decay.decay.RandomSeed = 12345

decay.positioner.Volume = volume
decay.positioner.Strategy = "FullVolume"
decay.positioner.Mode = "Uniform"
decay.positioner.Position = [0,0,0]

decay.timerator.LifeTime = 1*units.second
decay.transformer.Volume = volume

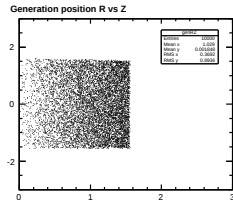
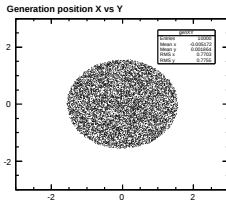
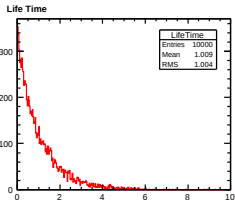
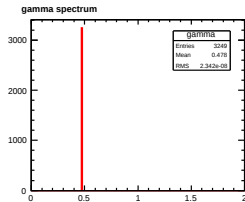
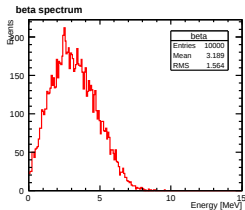
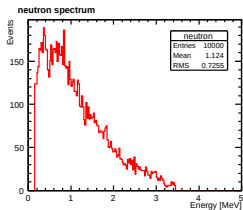
import GenTools
gtc = GenTools.Configure(genname="Li-9")
gtc.generator.TimeStamp = int(wallTime)
gtc.register(decay)
```

^9Li decay (channels with neutron)



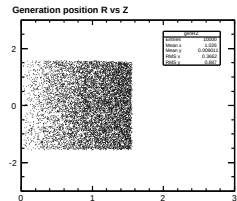
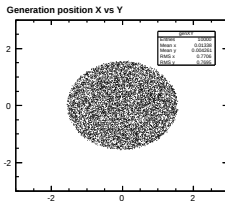
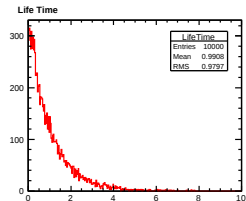
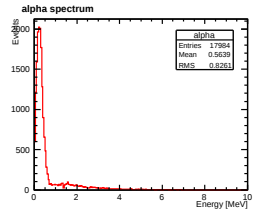
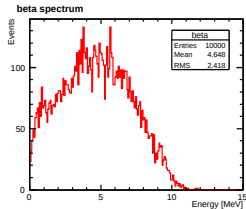
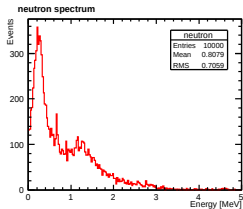
● Channels with neutron

^8He decay (channels with neutron)



● Channels with neutron

$^9\text{Li}/^8\text{He}$ mixture



● $n(^9\text{Li})/(n(^9\text{Li})+n(^8\text{He}))=0.90$

Convert InverseBeta generator into GenTool style class

- Location:

dybgaudi/trunk/Generators/InvBetaDecay

- Kept all the attributes:

RandomSeed=1234567,
NeutrinoAngle=0,
PositronOnly=0,
NeutronOnly=0.

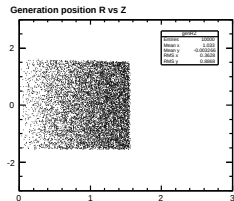
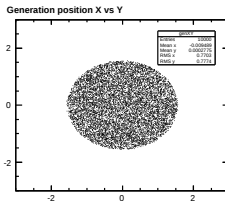
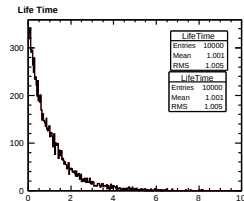
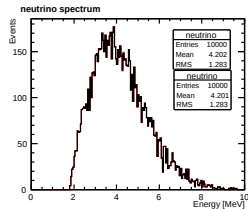
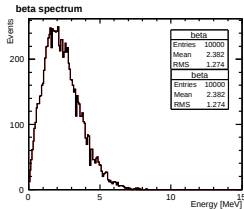
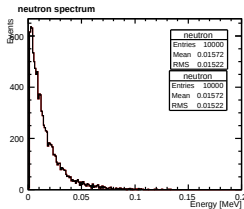
```
from InvBetaDecay.Helpers import Decay
decay=Decay()
decay.decay.RandomSeed = 12345
```

```
decay.positioner.Volume = volume
decay.positioner.Strategy = "FullVolume"
decay.positioner.Mode = "Uniform"
decay.positioner.Position = [0,0,0]
```

```
decay.timerator.LifeTime = 1*units.second
decay.transformer.Volume = volume
```

```
import GenTools
gtc = GenTools.Configure(genname="IBD")
gtc.generator.TimeStamp = int(wallTime)
gtc.register(decay)
```

Comparing with standalone generator



- Only a tiny difference. Probably comes from the tiny mass difference changed from hard coded number to CLHEP mass.
- Old generator each particle has a separate vertex though all same, now it has only one vertex.