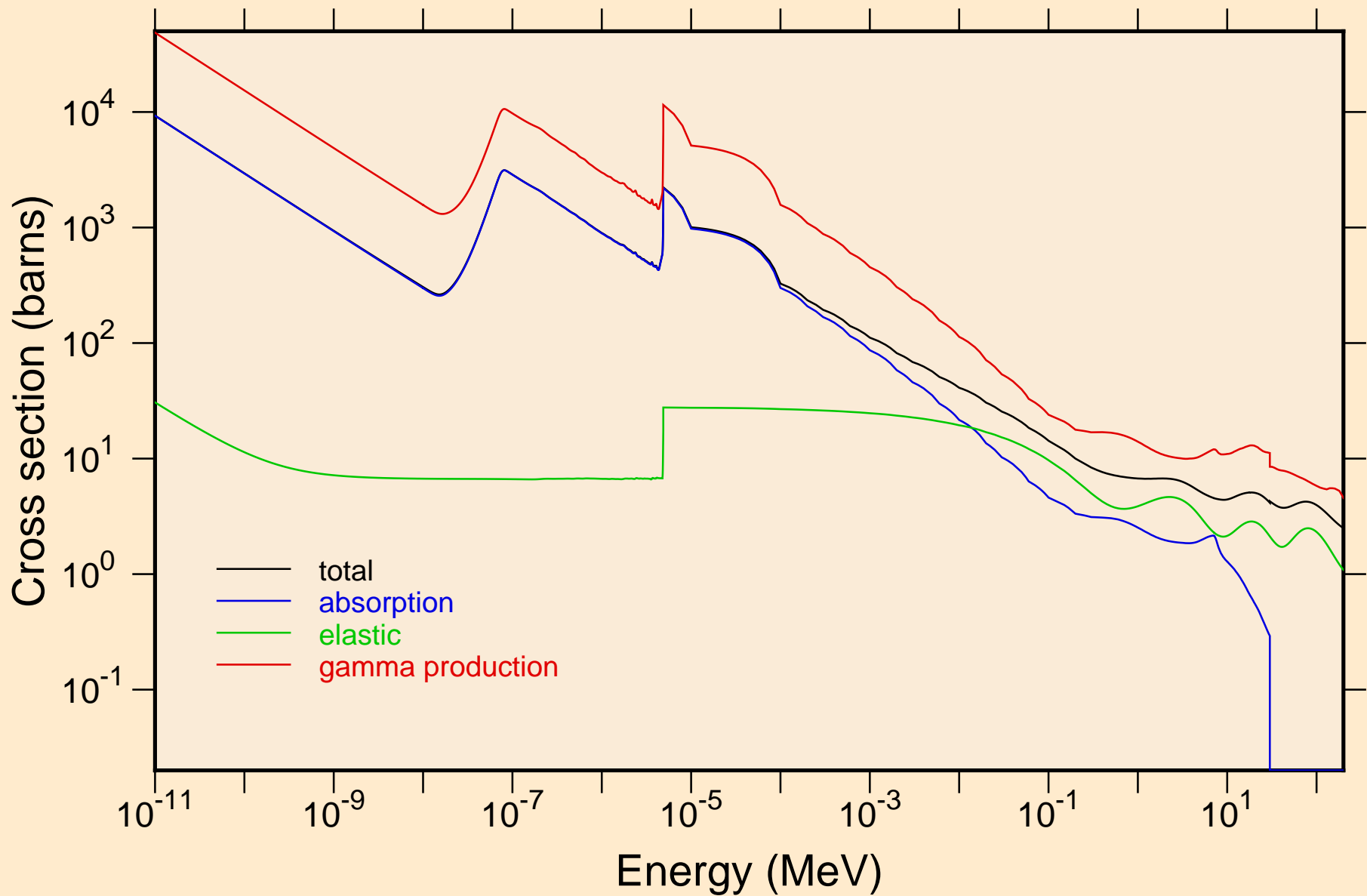
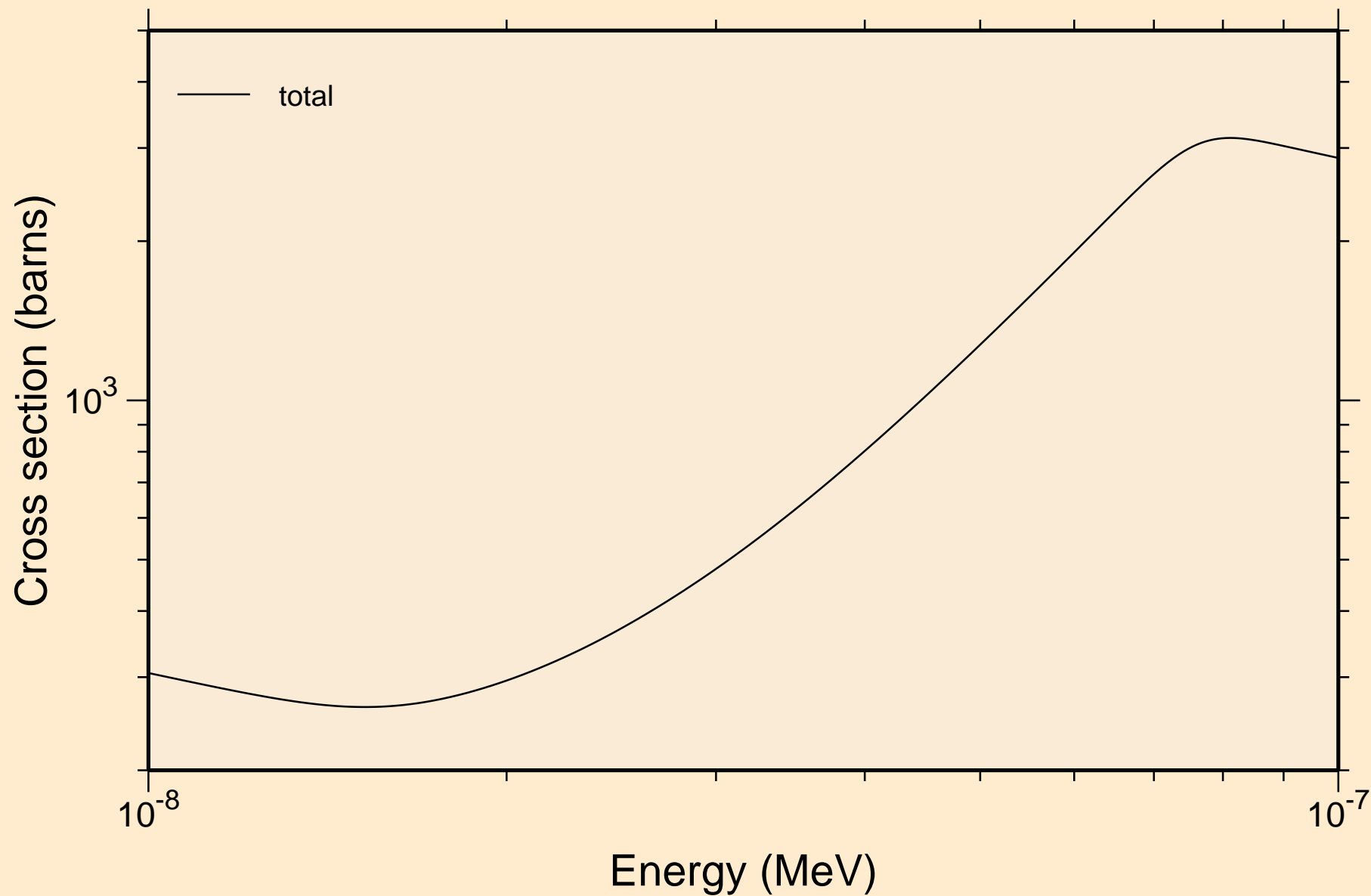


# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

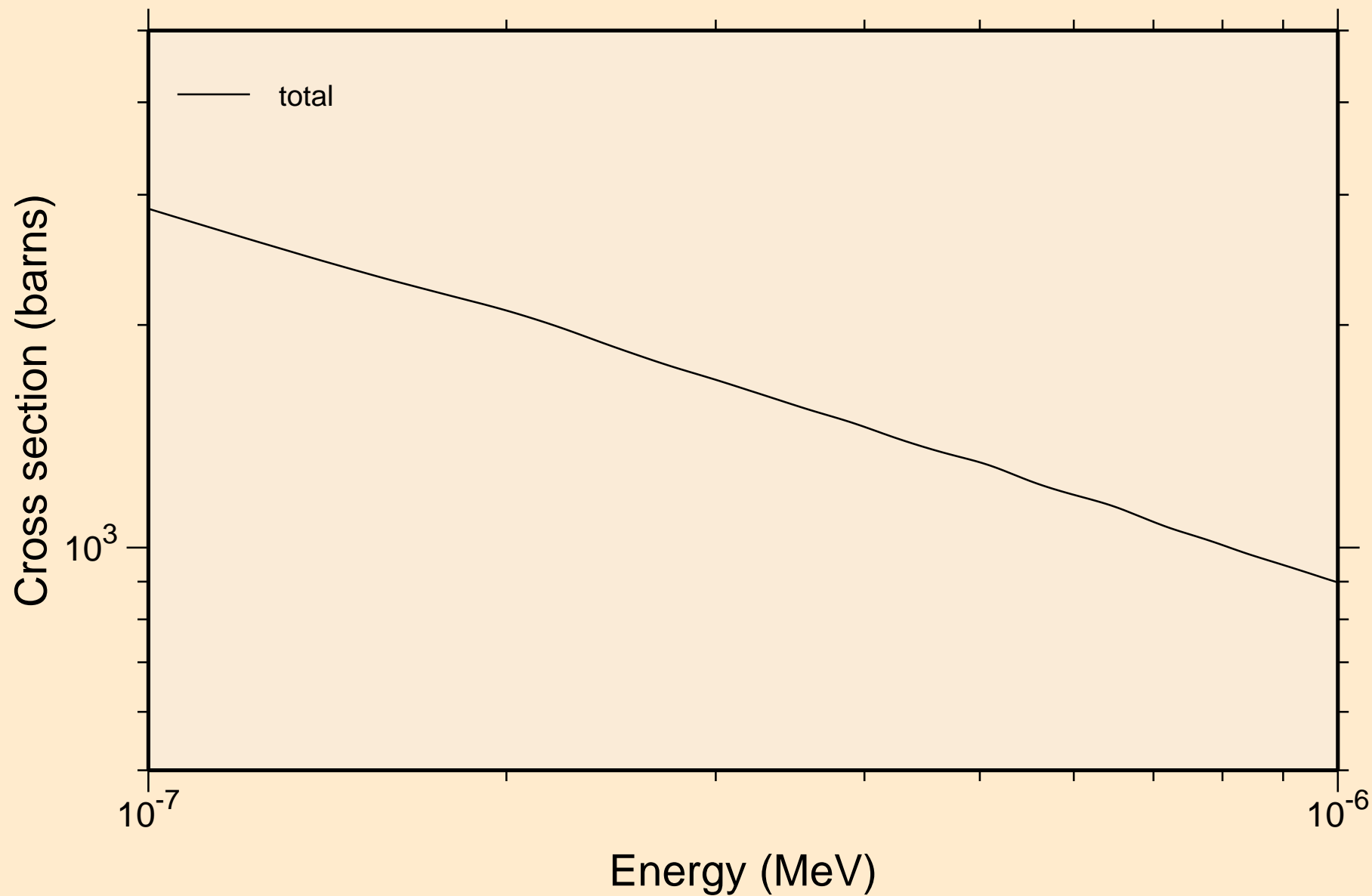
## Principal cross sections



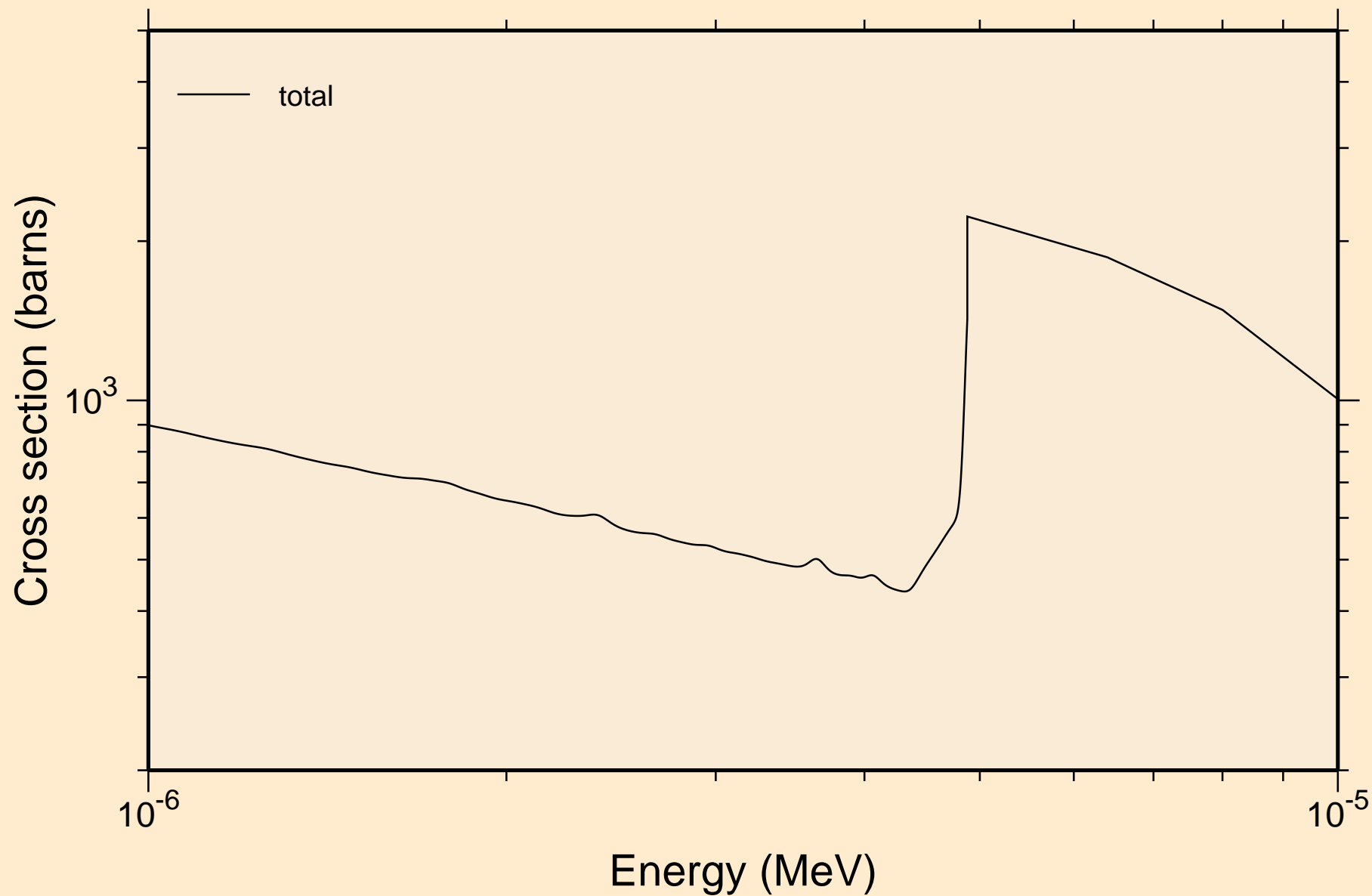
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resonance total cross section



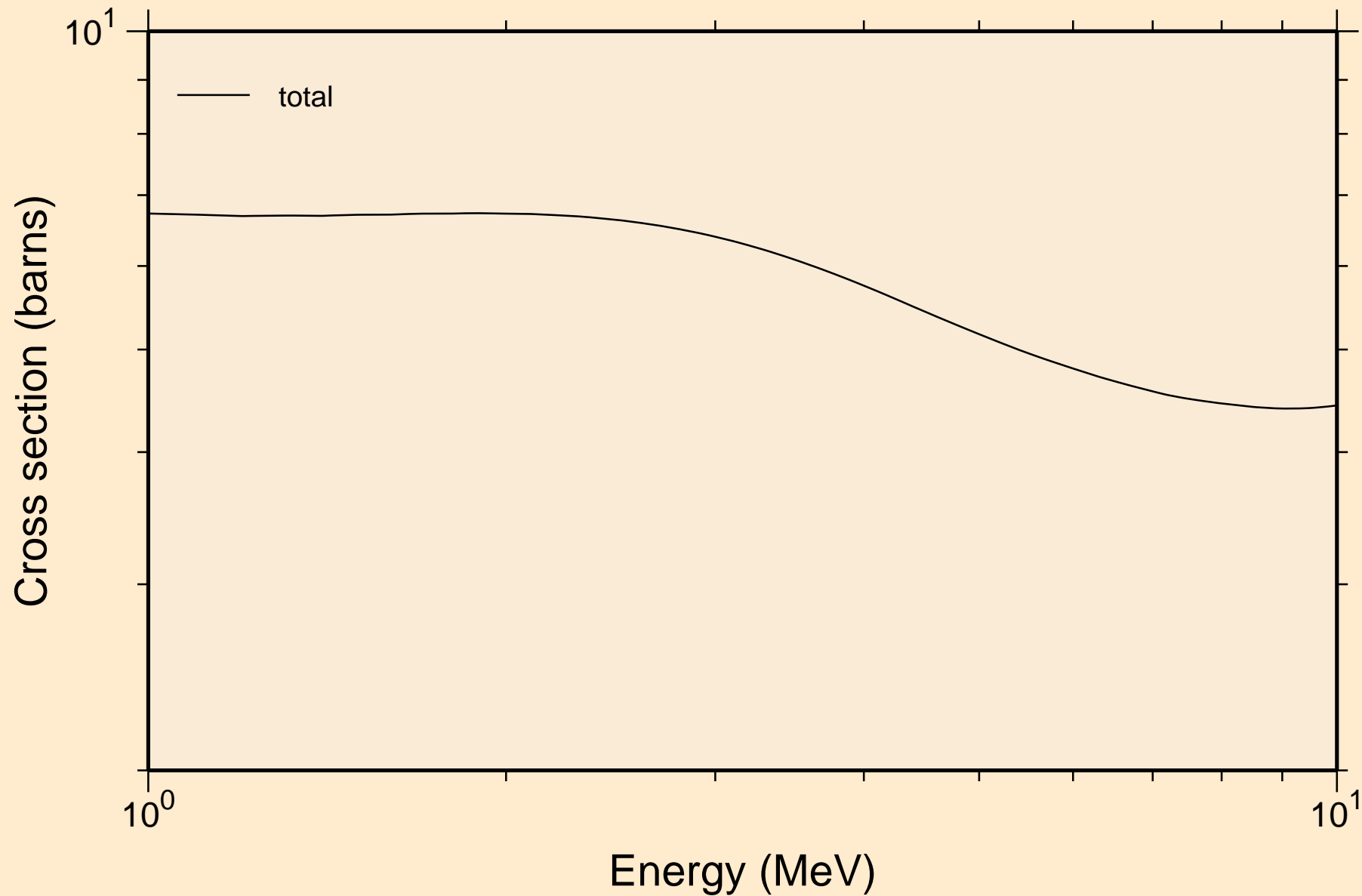
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
resonance total cross section



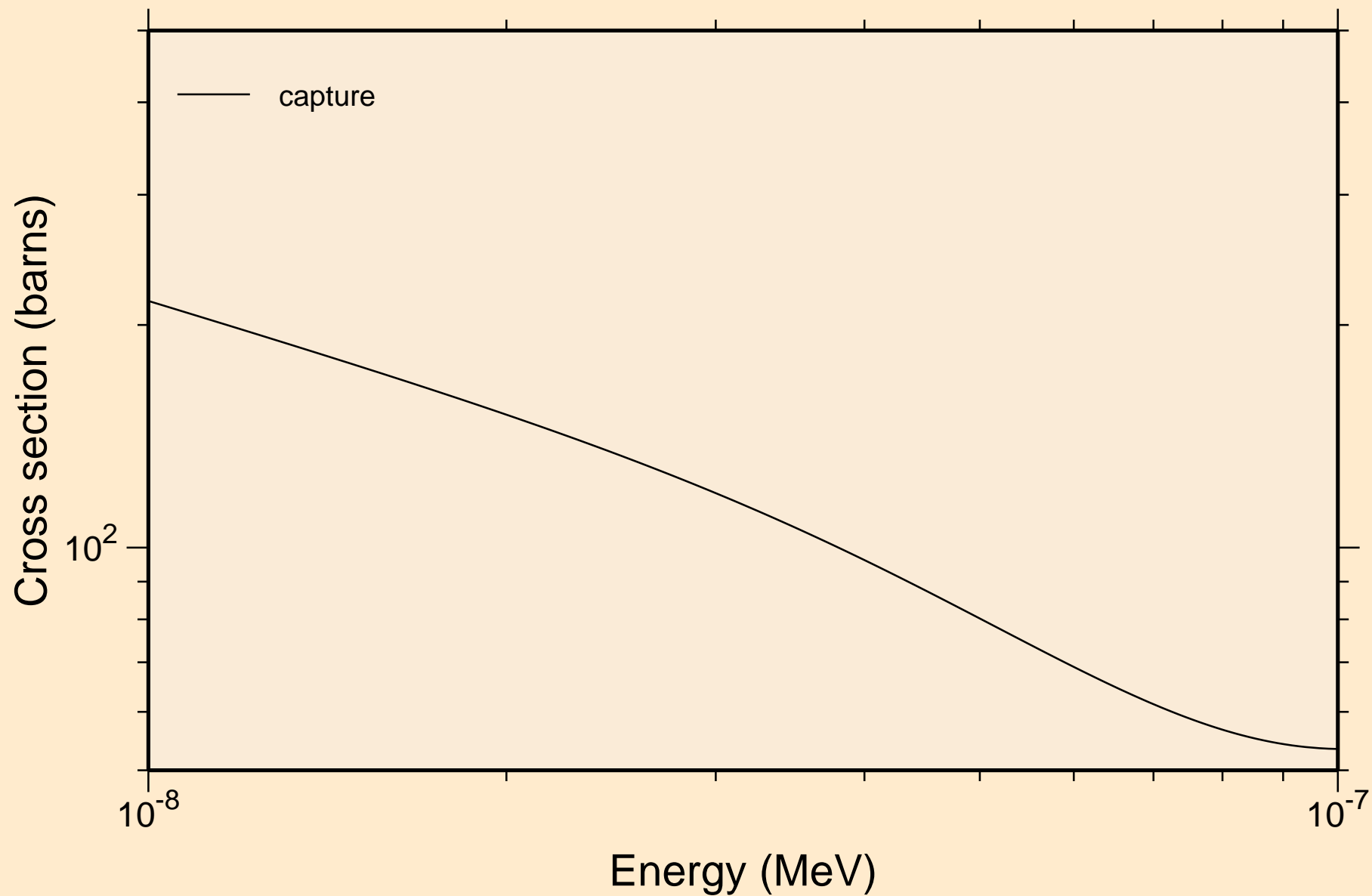
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resonance total cross section



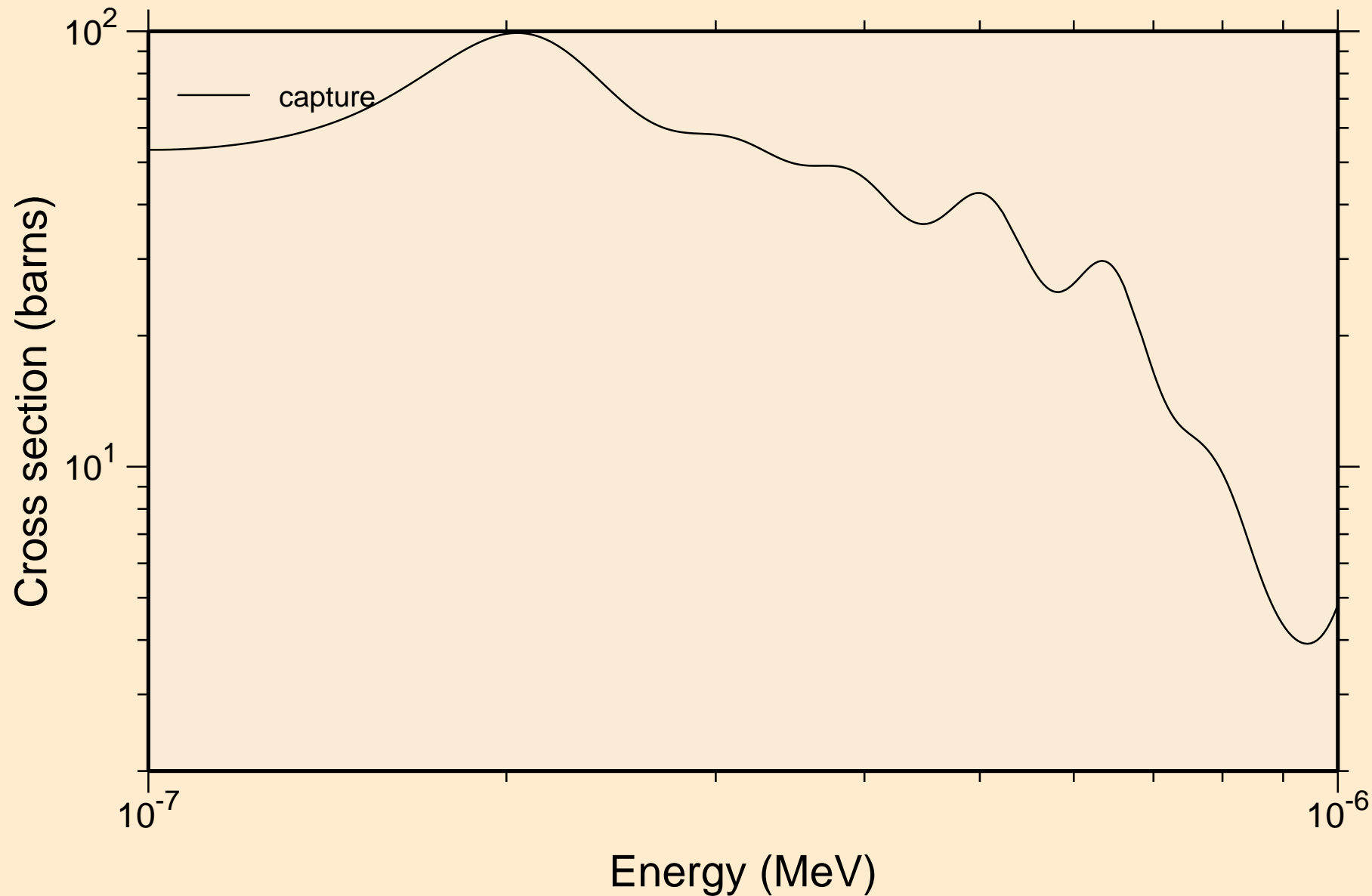
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resonance total cross section



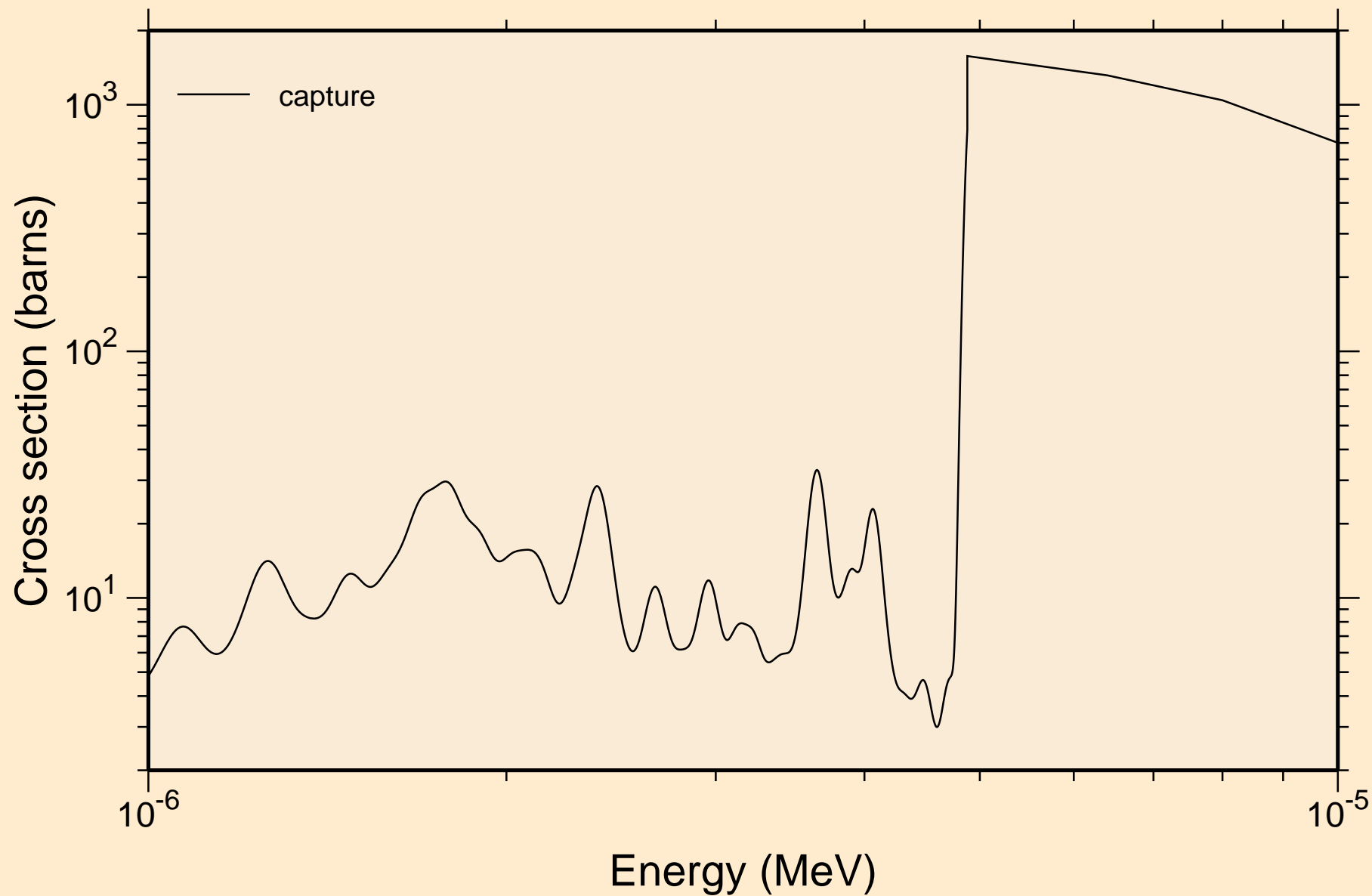
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
resonance absorption cross sections



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
resonance absorption cross sections

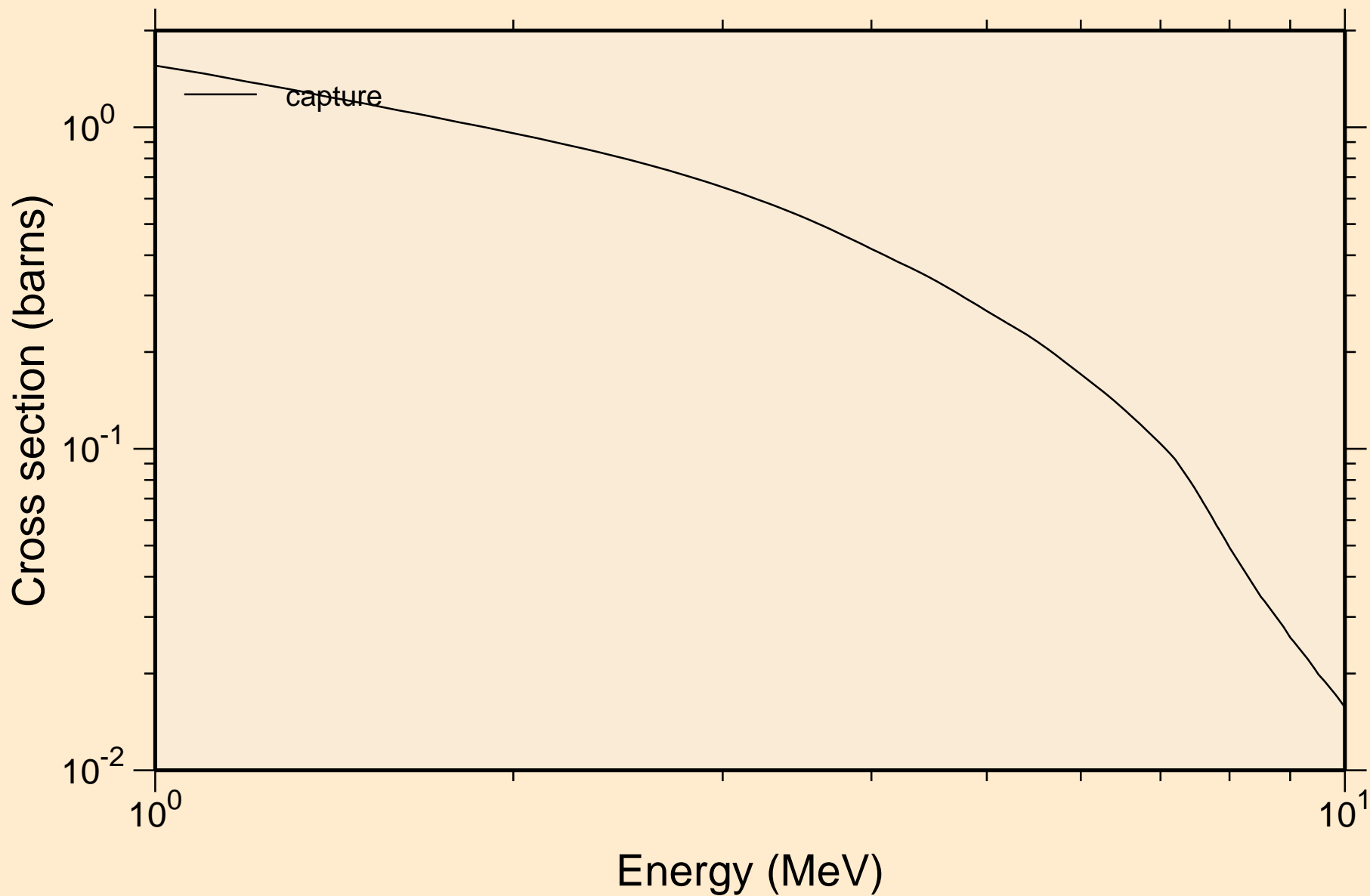


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
resonance absorption cross sections

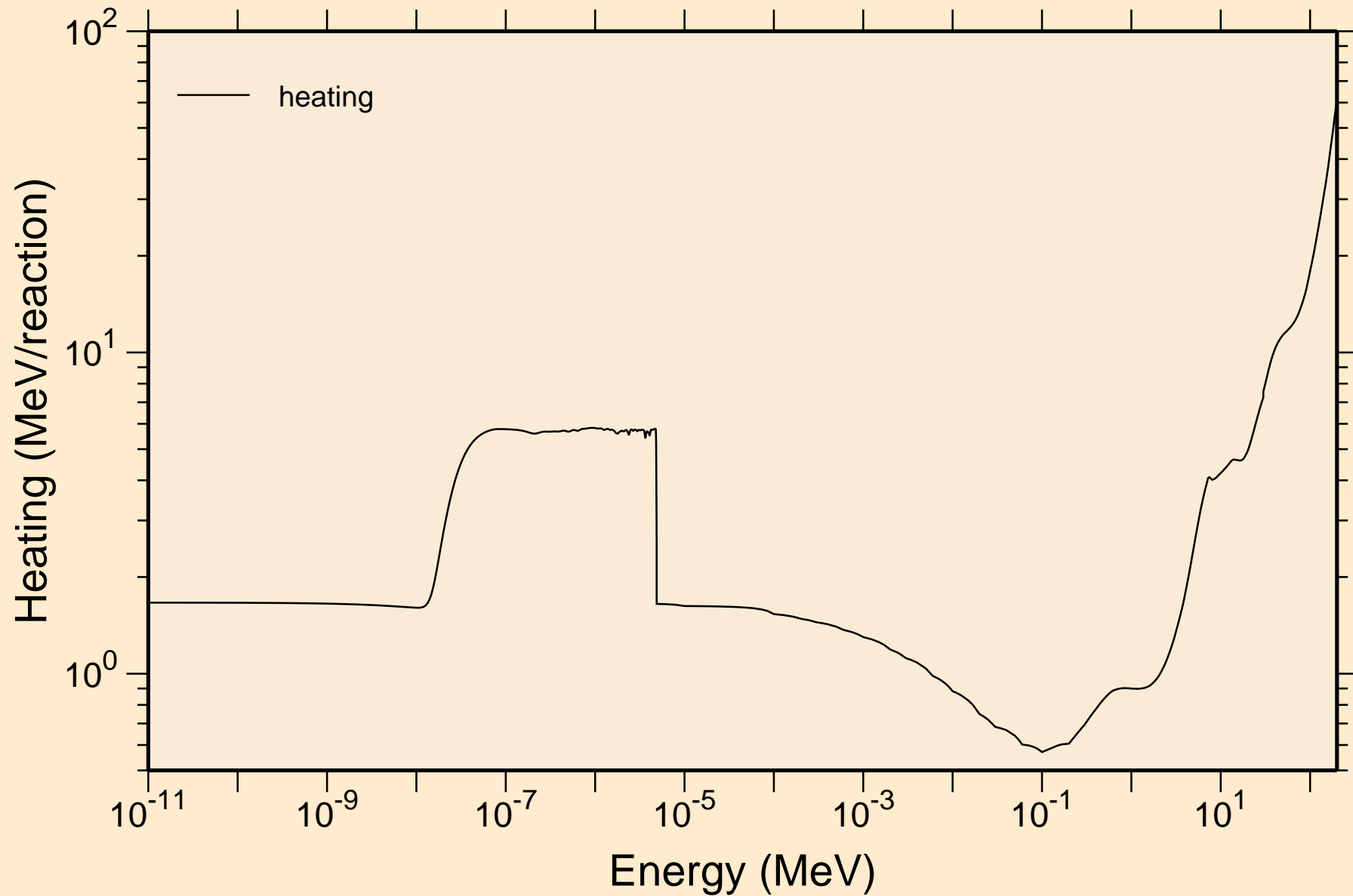




HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
resonance absorption cross sections

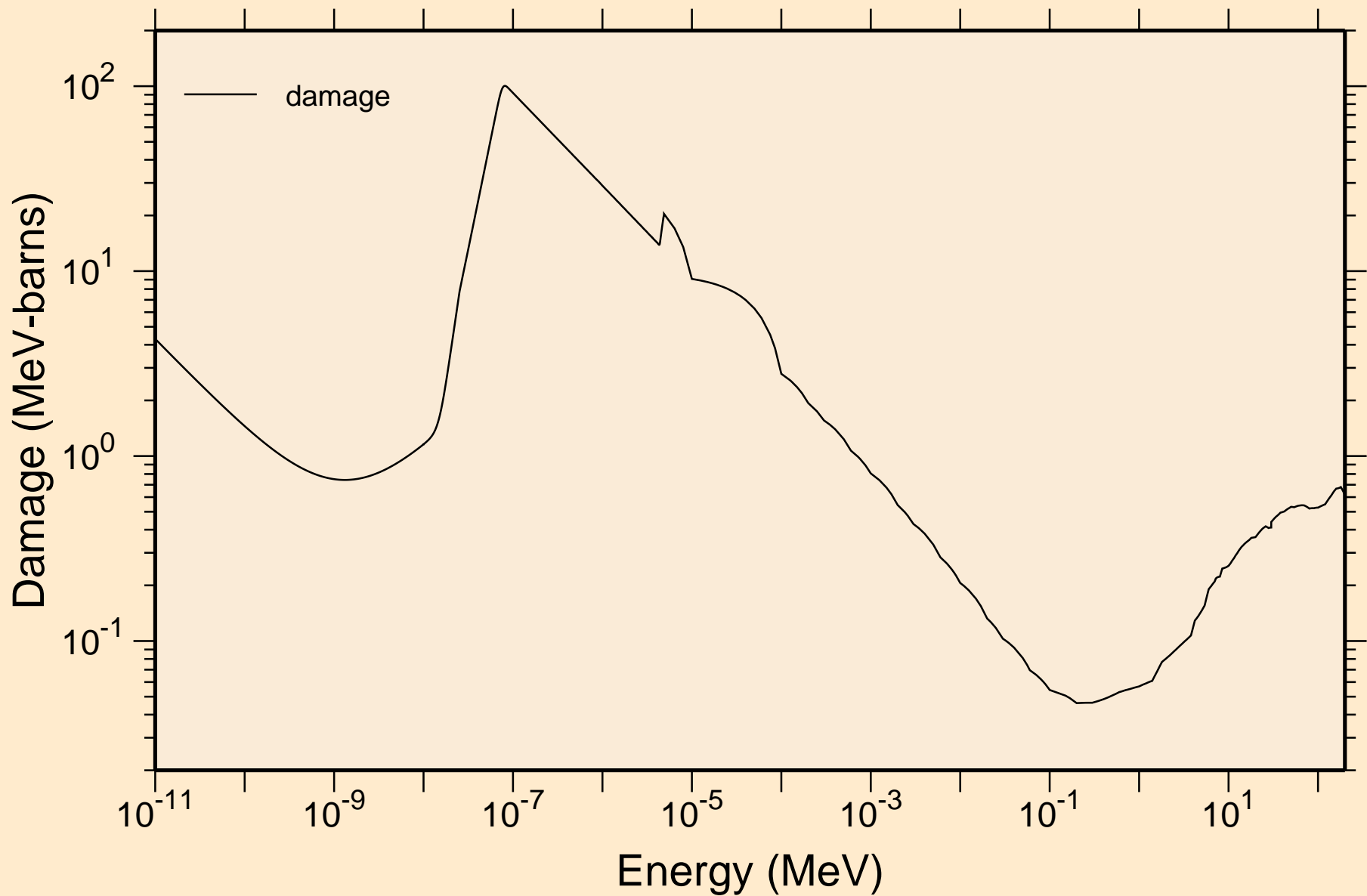


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Heating



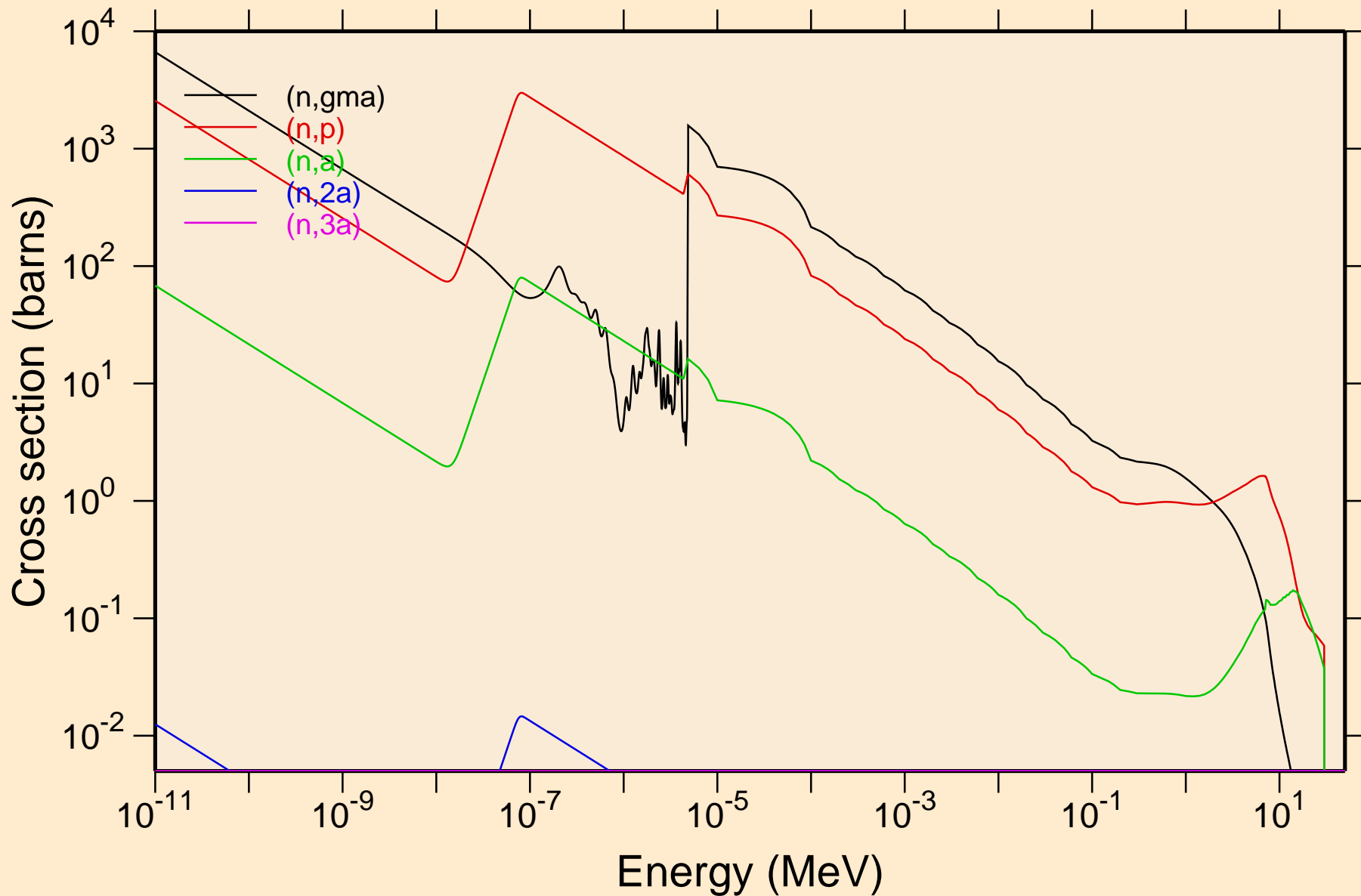
# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

## Damage

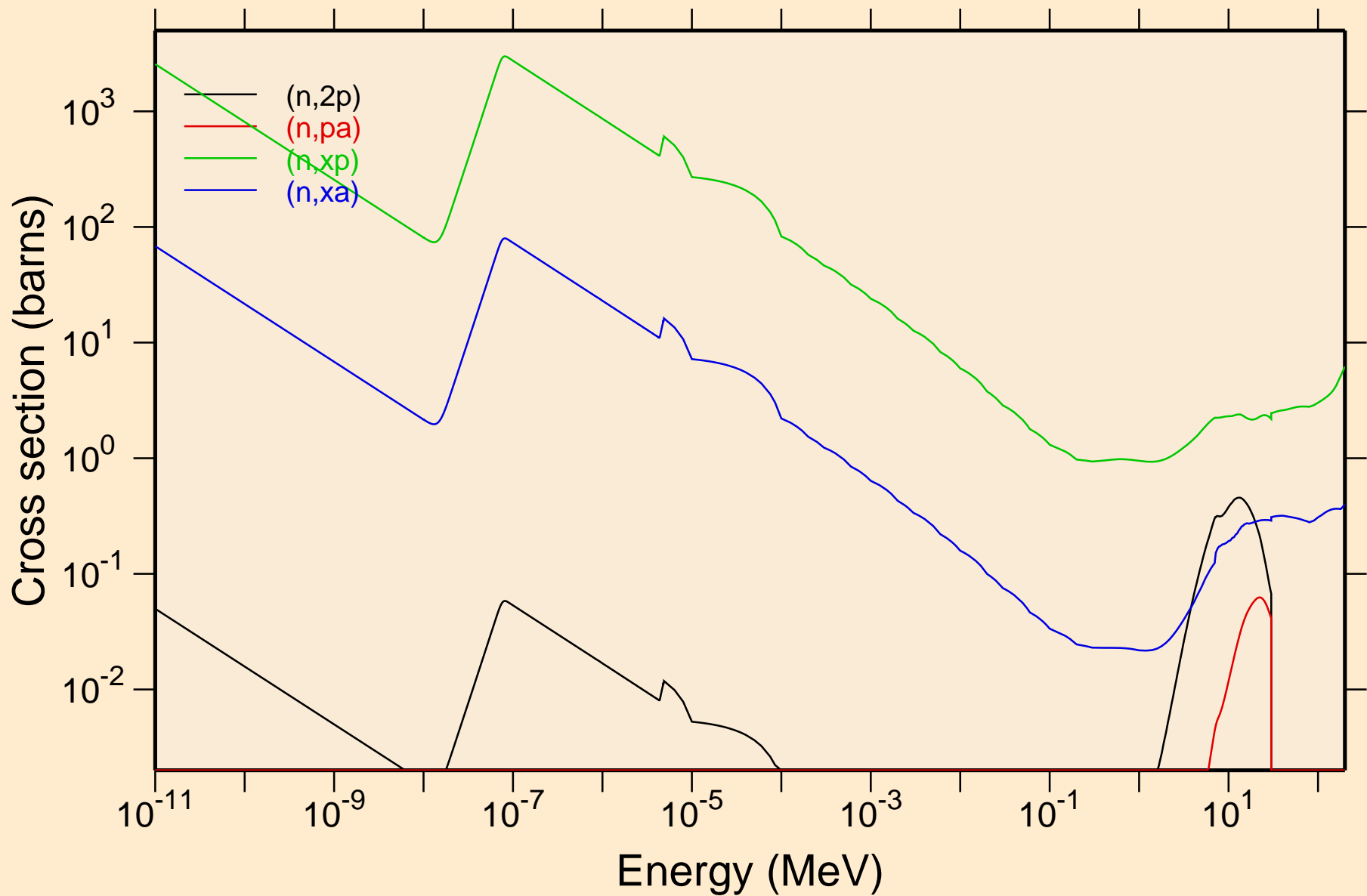


# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

## Non-threshold reactions

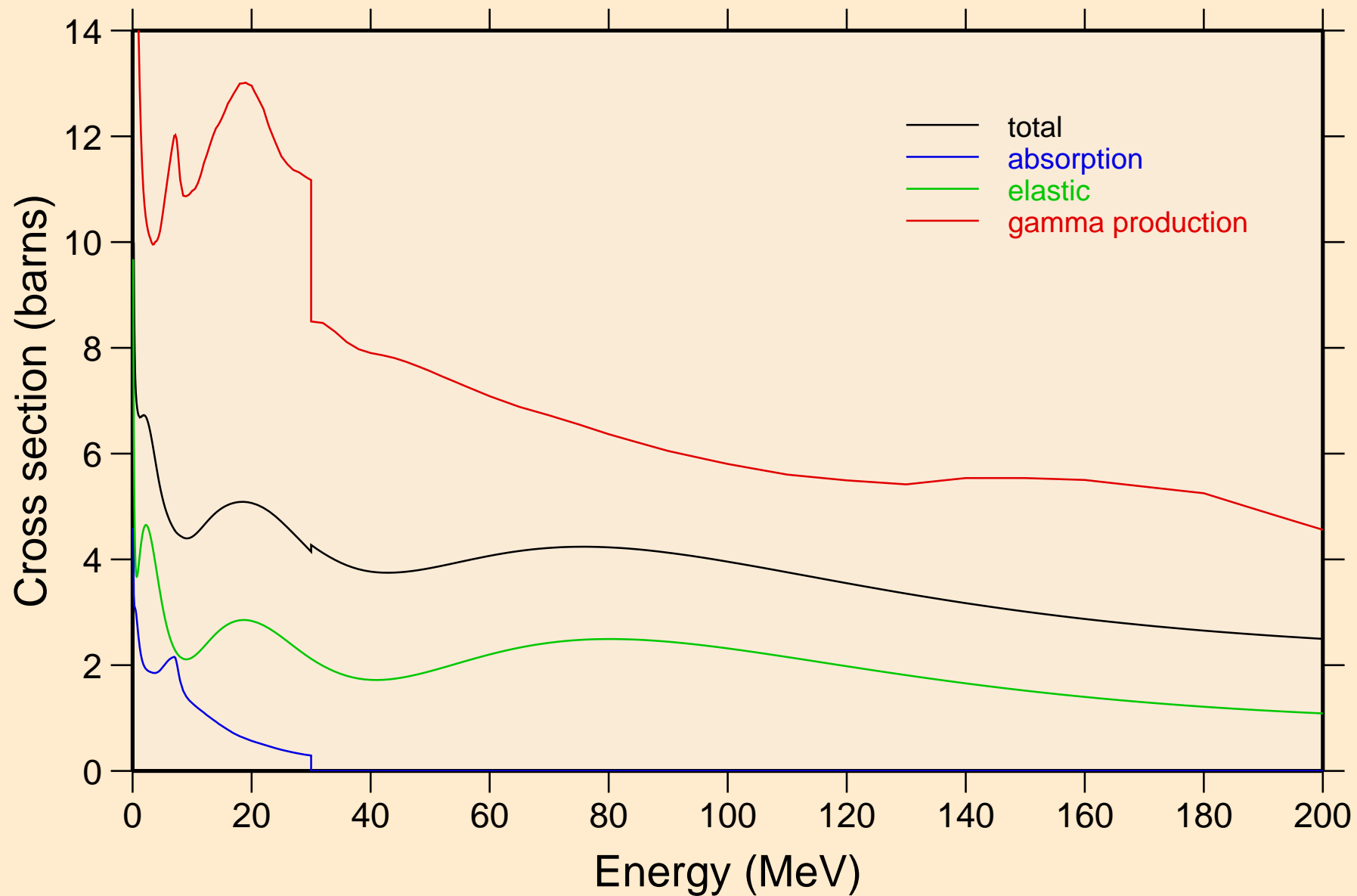


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Non-threshold reactions

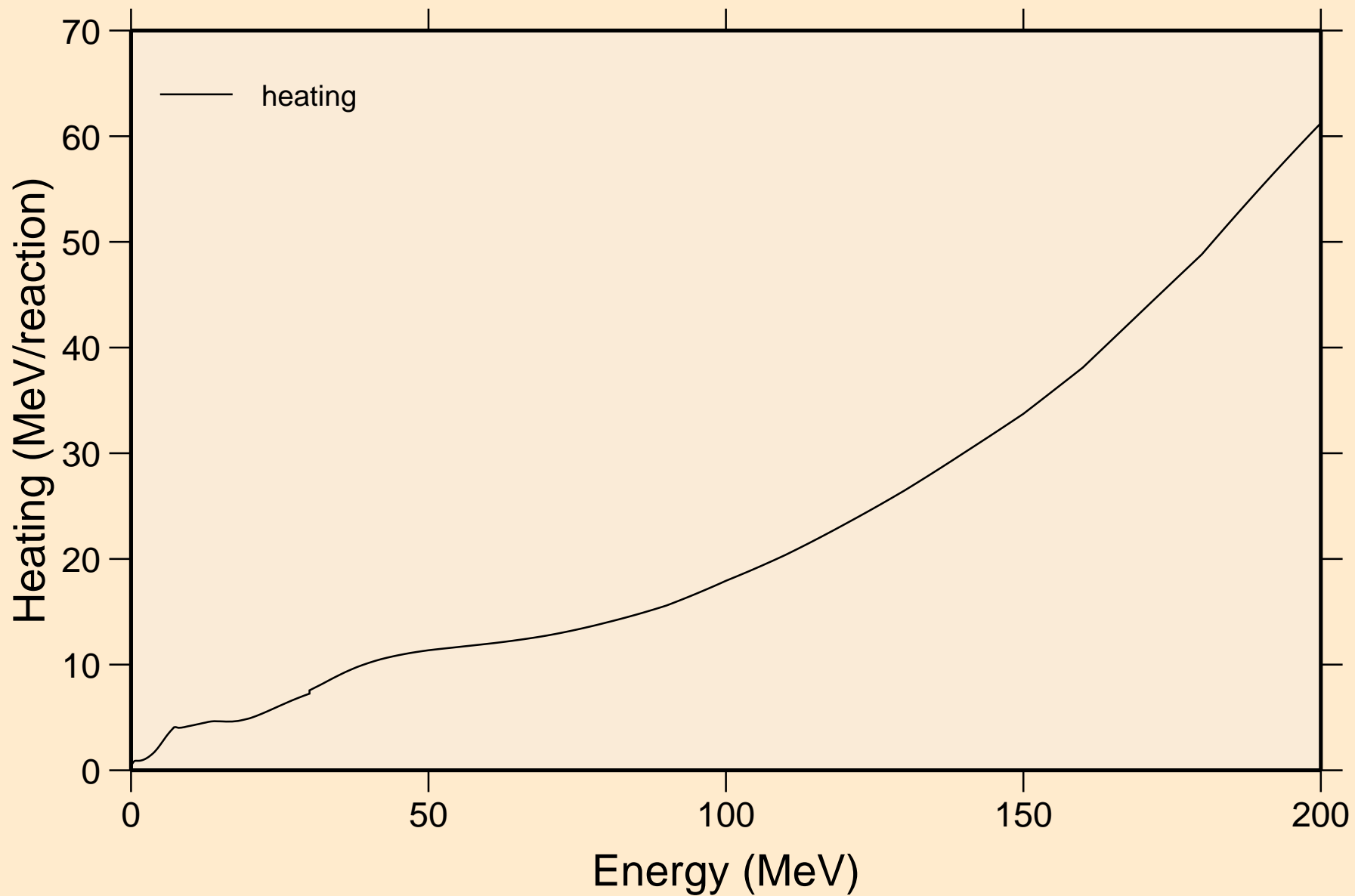


# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

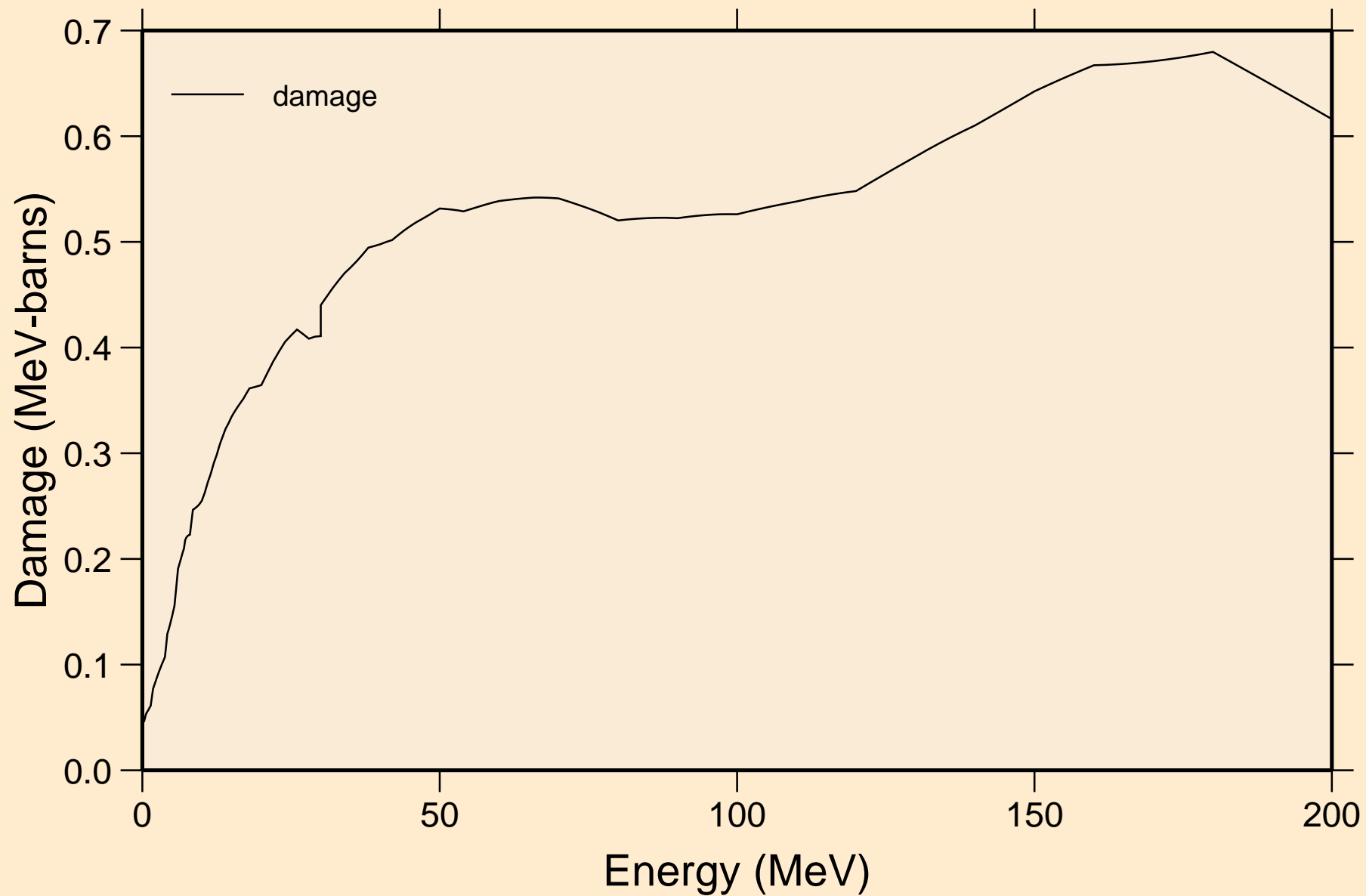
## Principal cross sections



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Heating



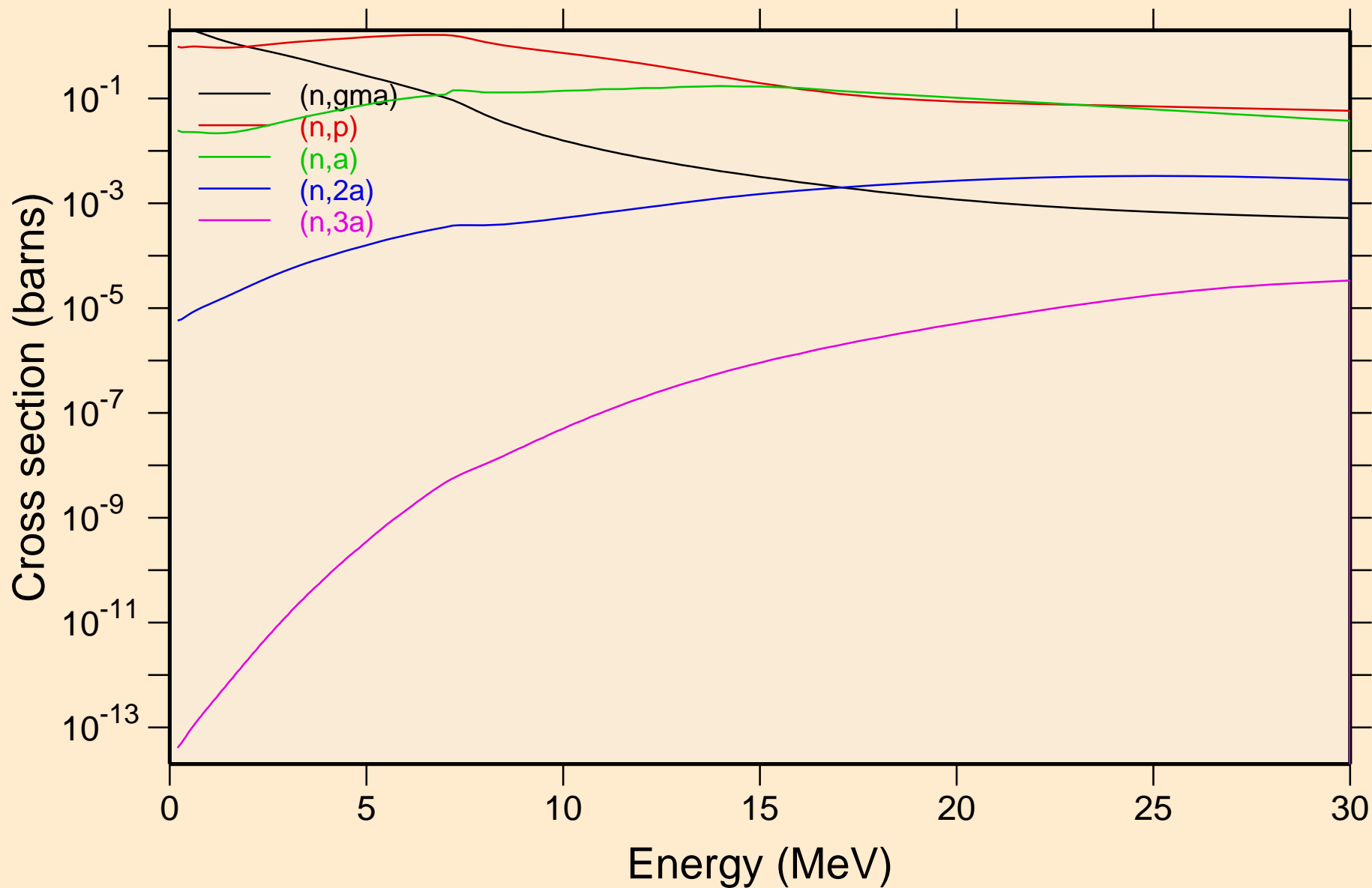
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Damage



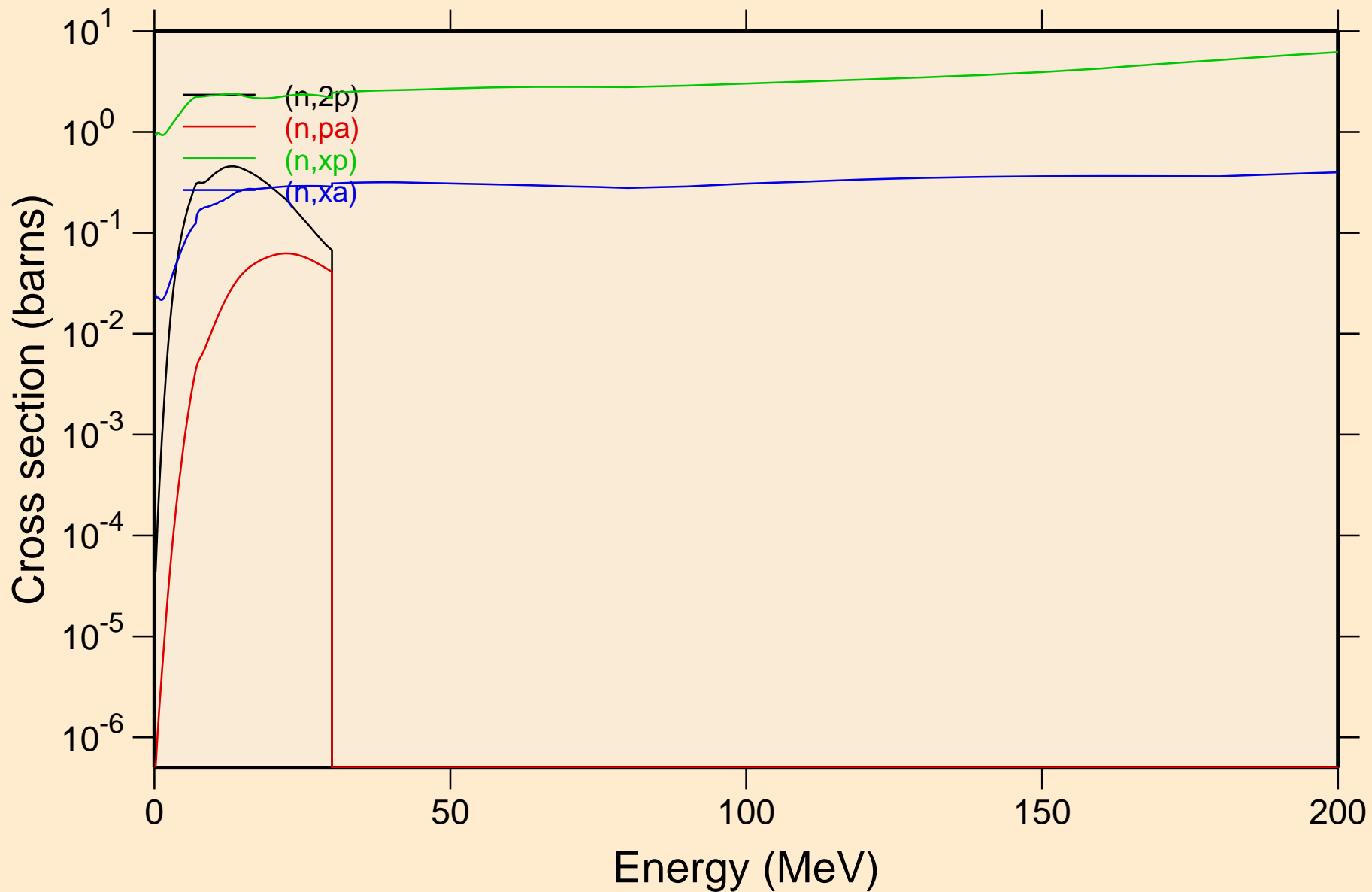


# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

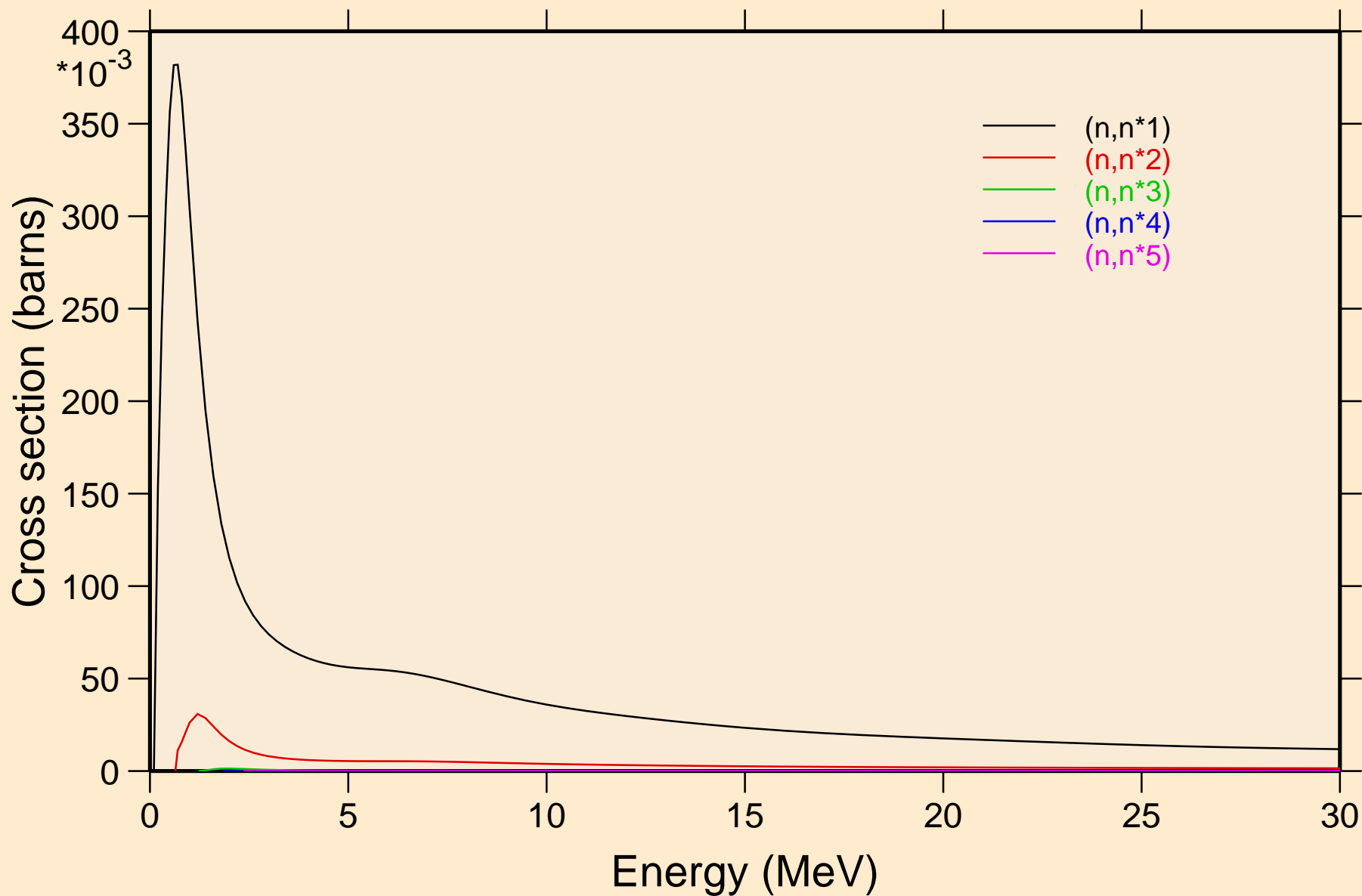
## Non-threshold reactions



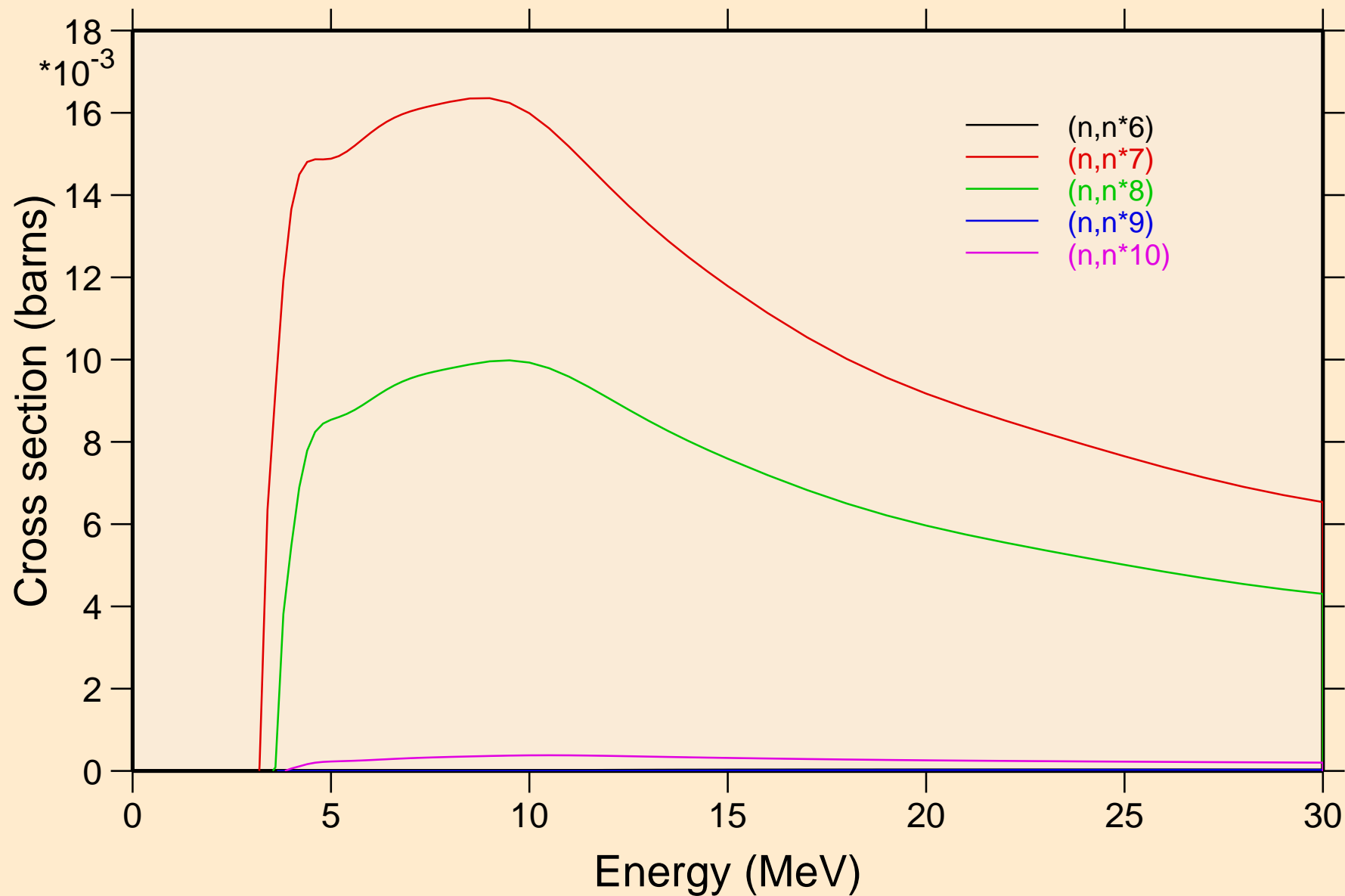
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Non-threshold reactions



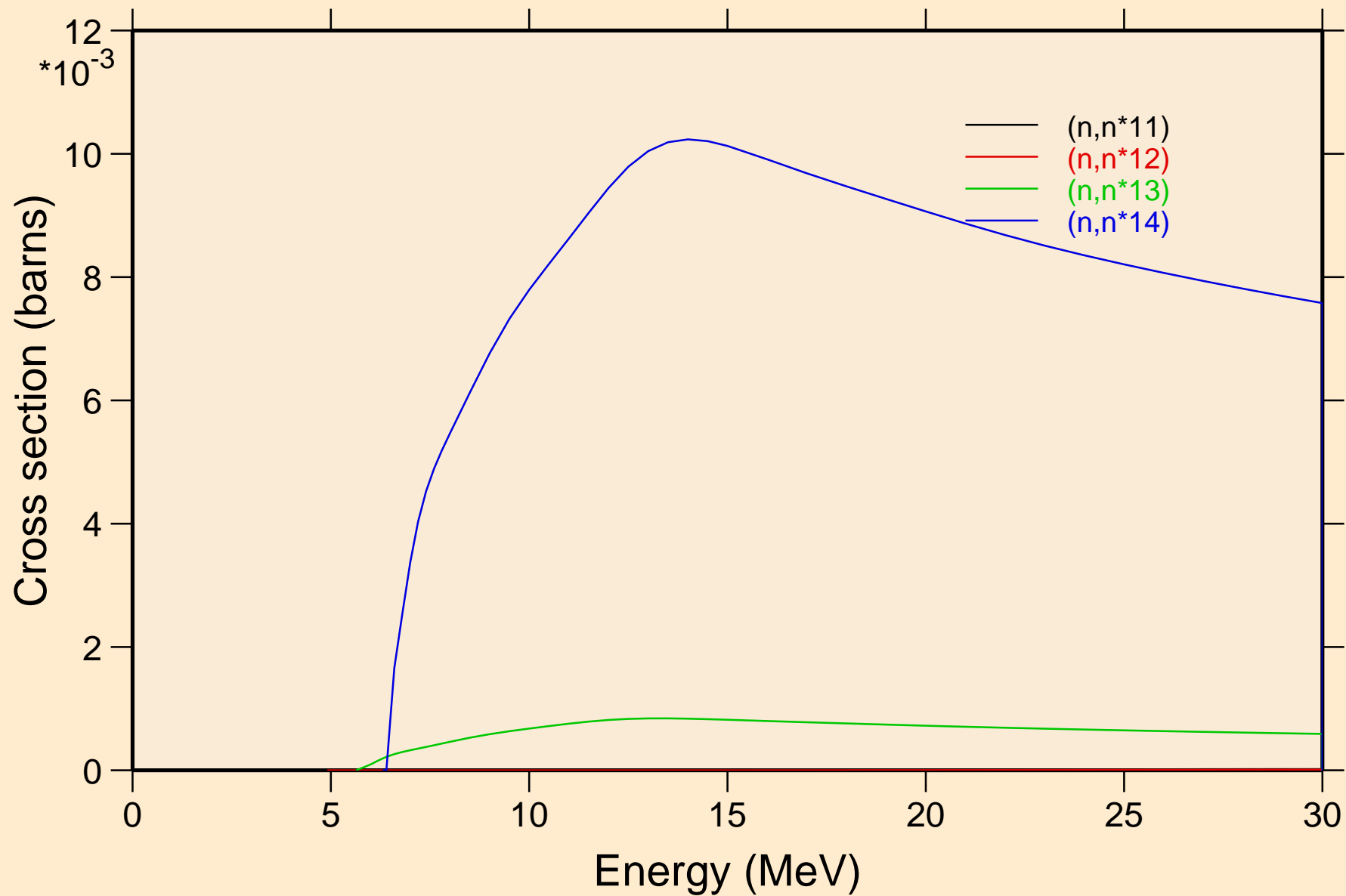
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Inelastic levels



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Inelastic levels

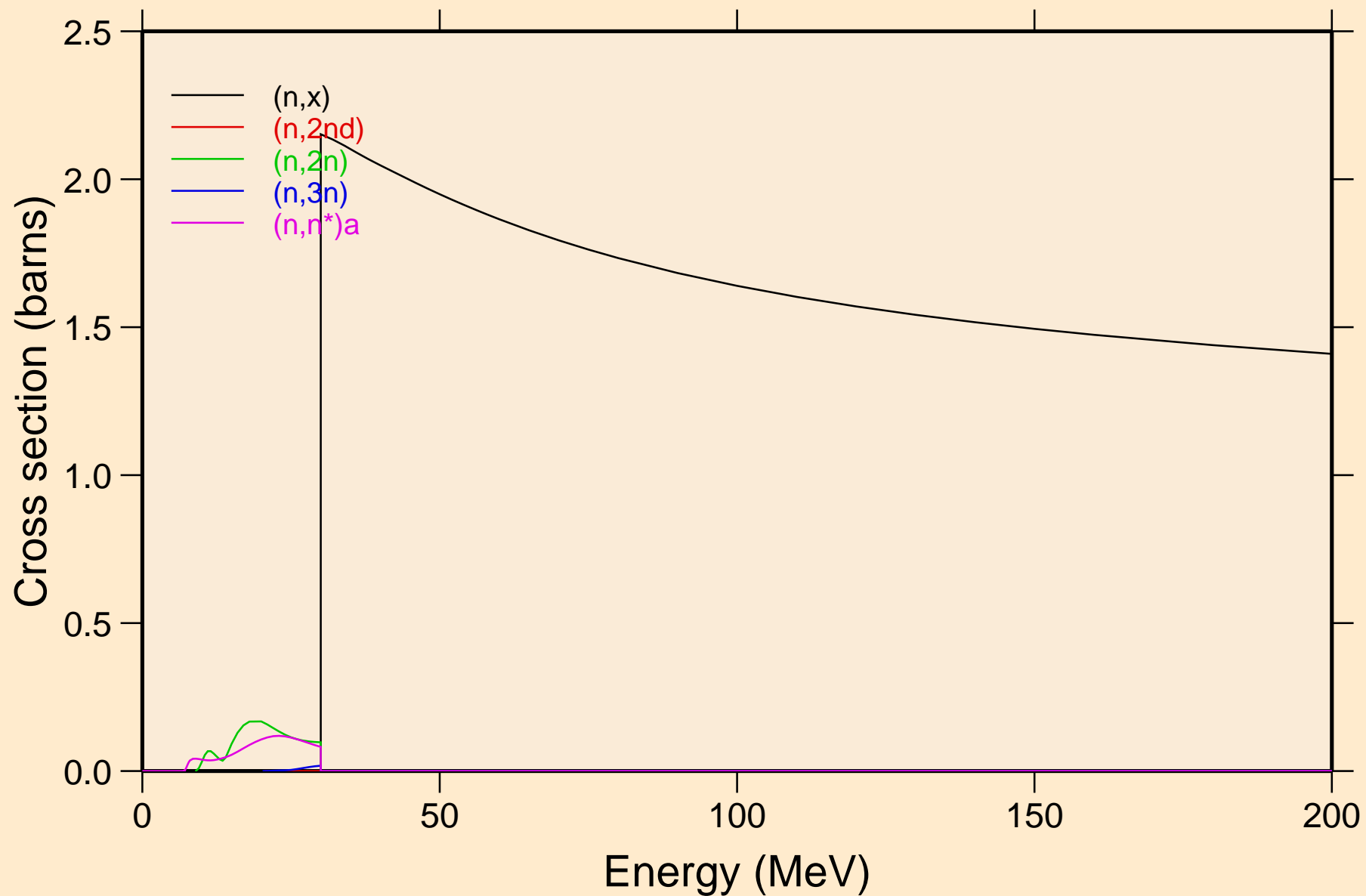


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Inelastic levels

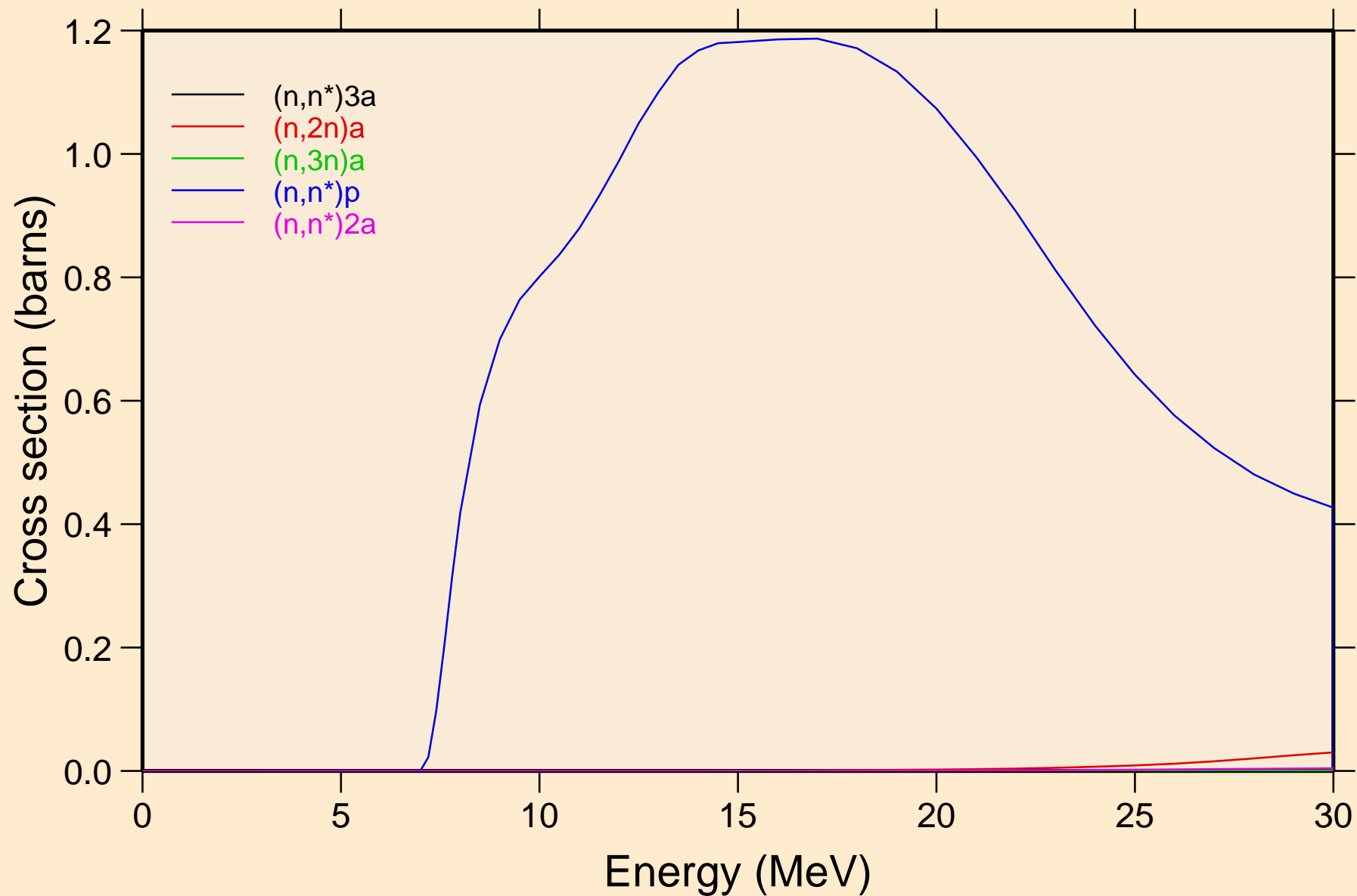


# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

## Threshold reactions

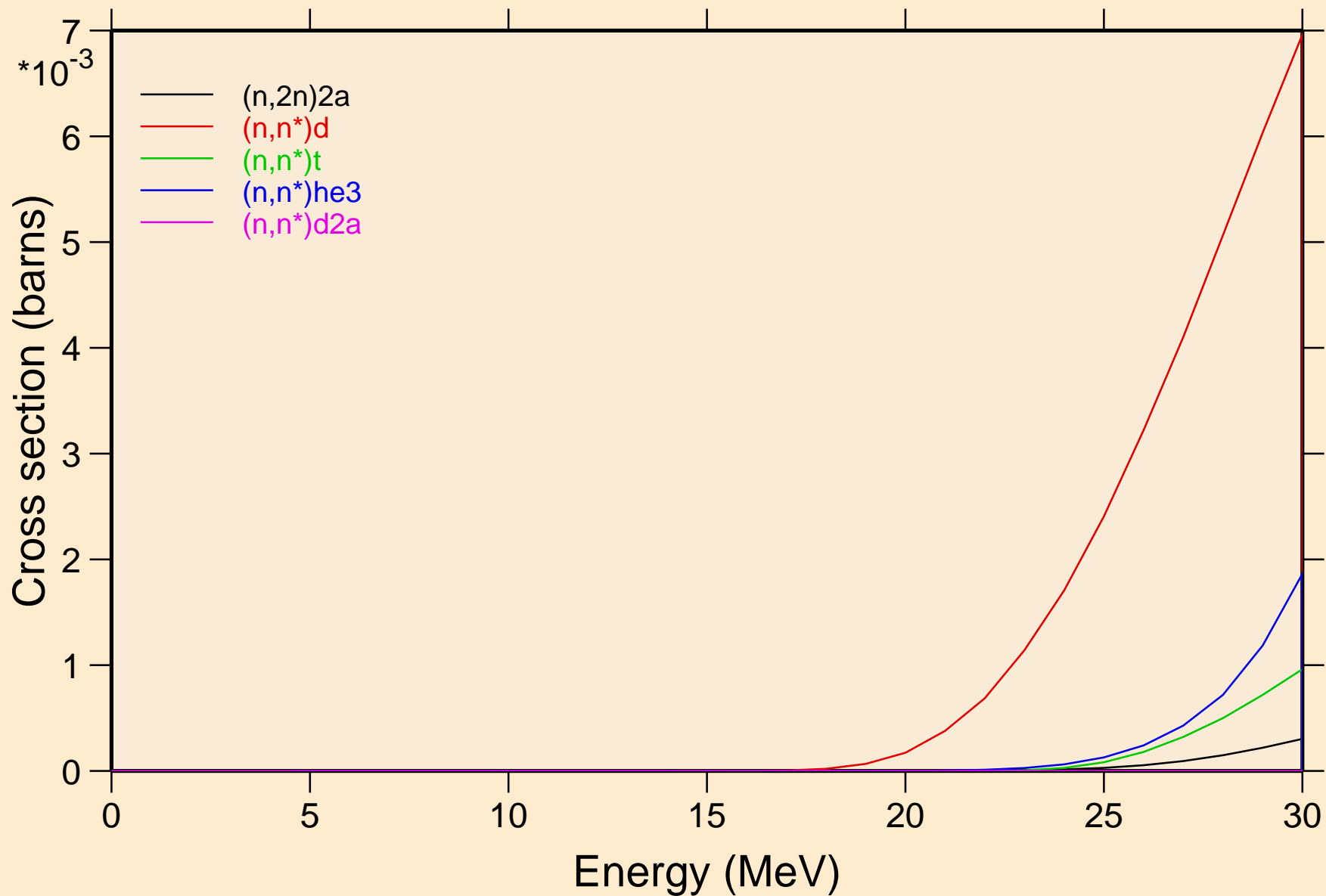


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Threshold reactions



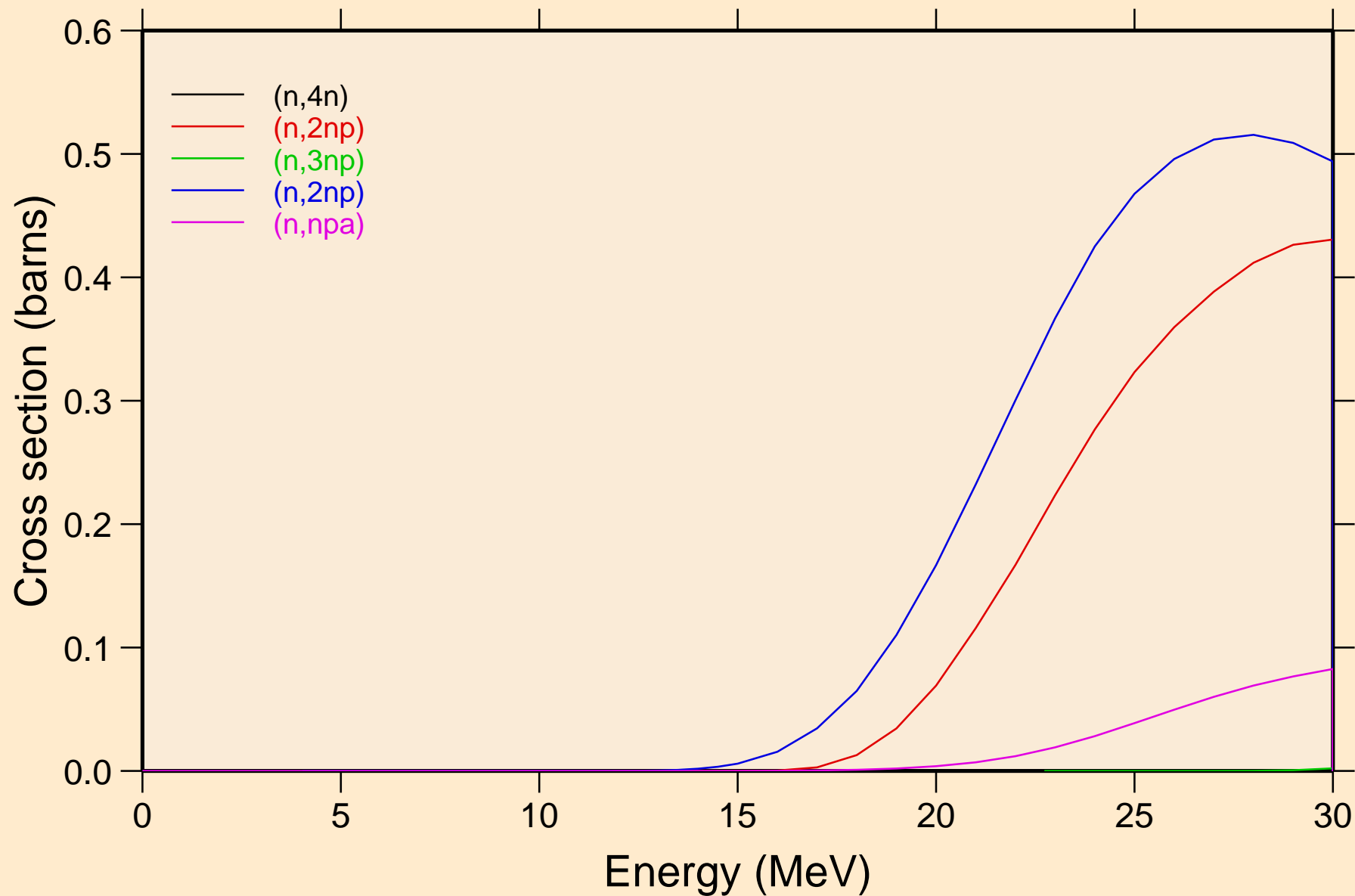
# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

## Threshold reactions



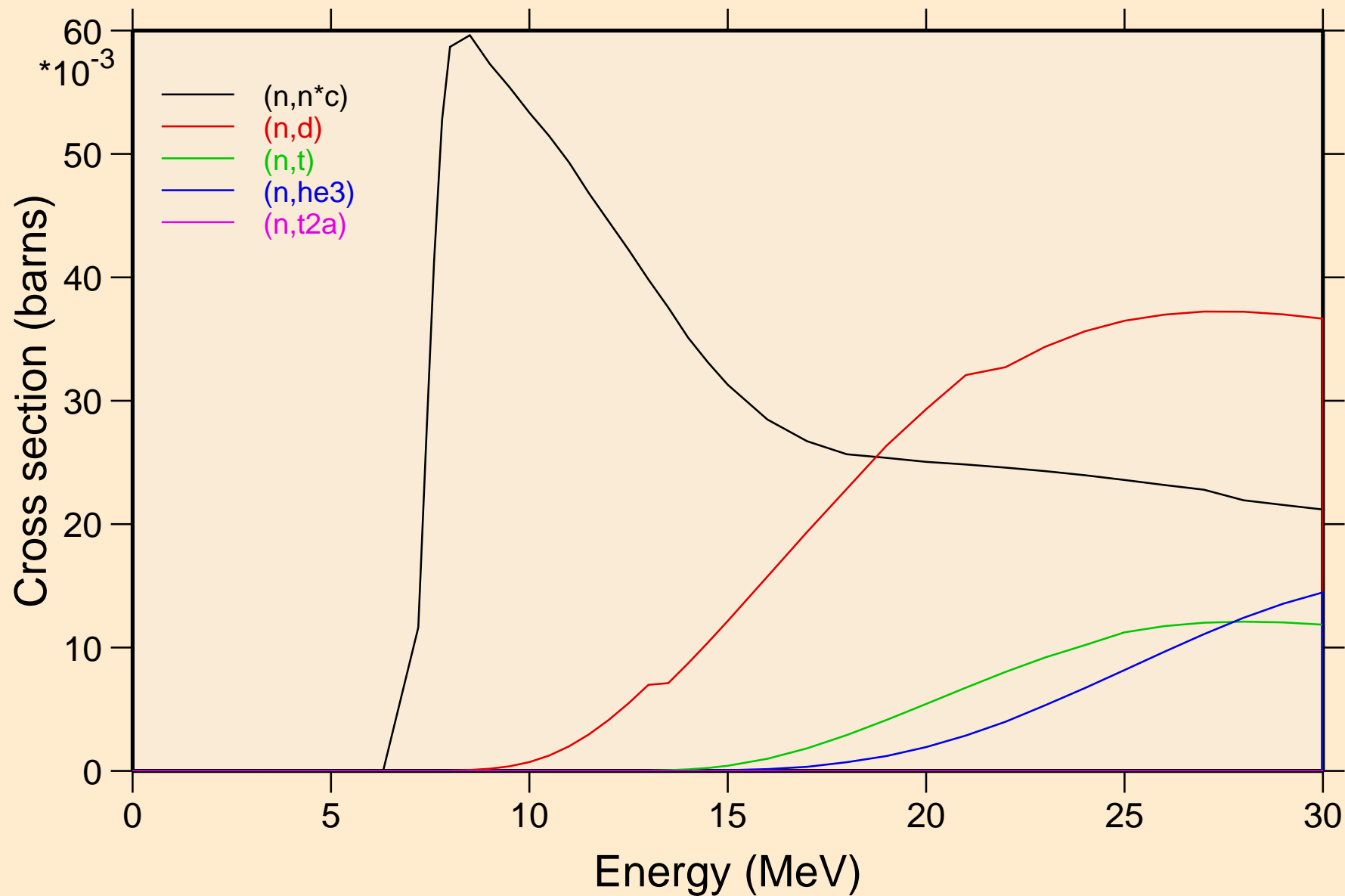


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Threshold reactions

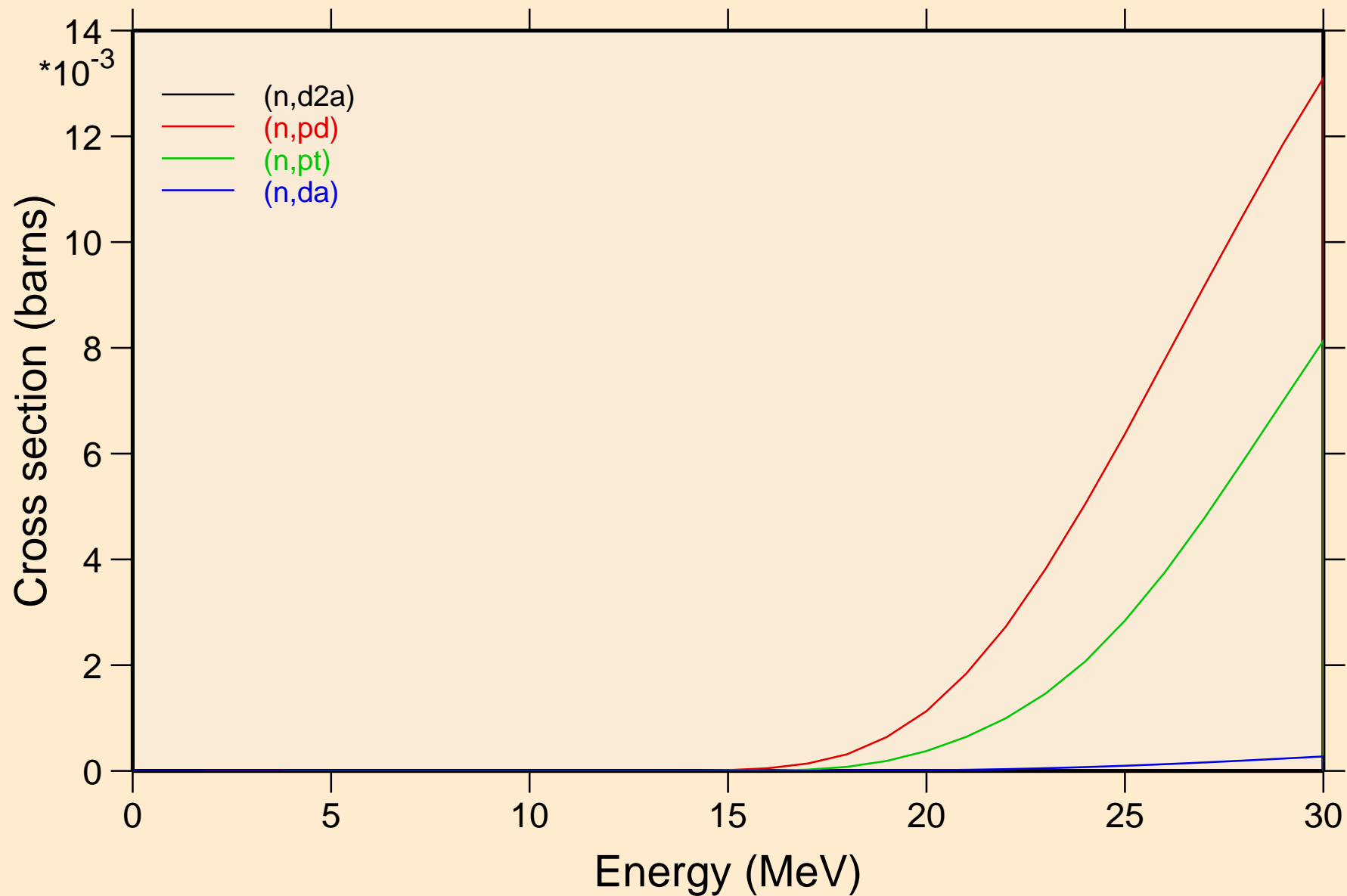


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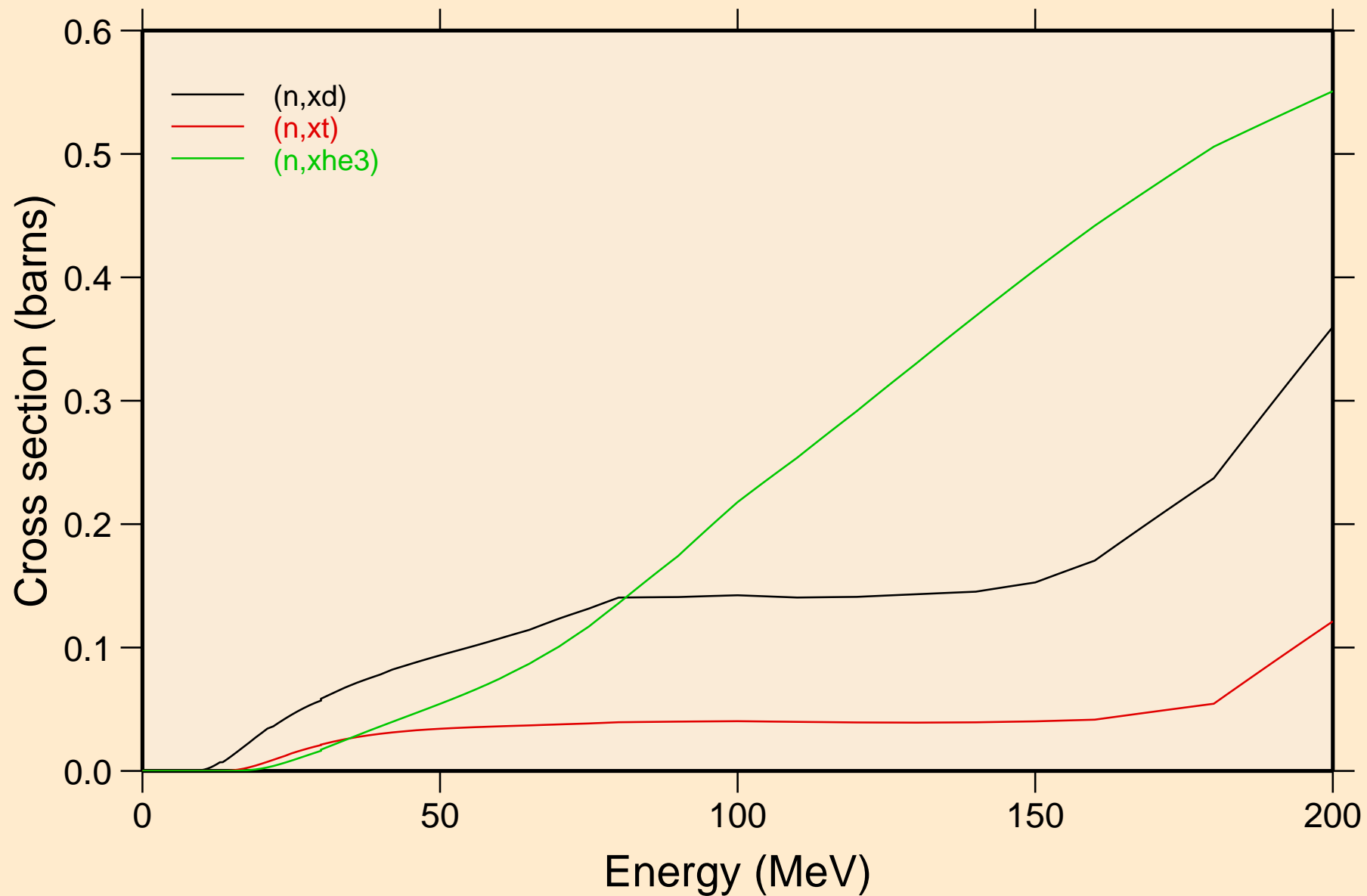
## Threshold reactions



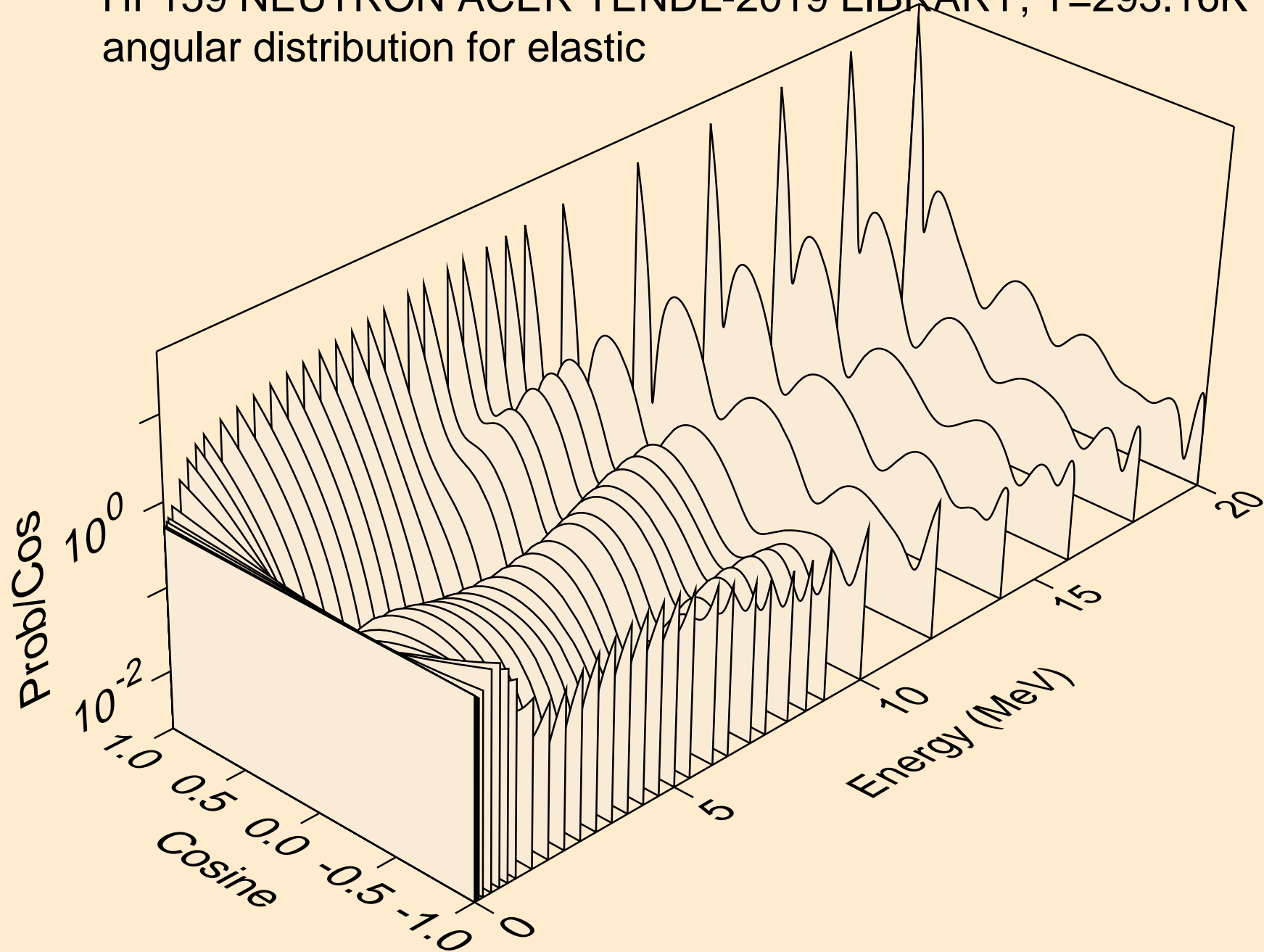
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Threshold reactions



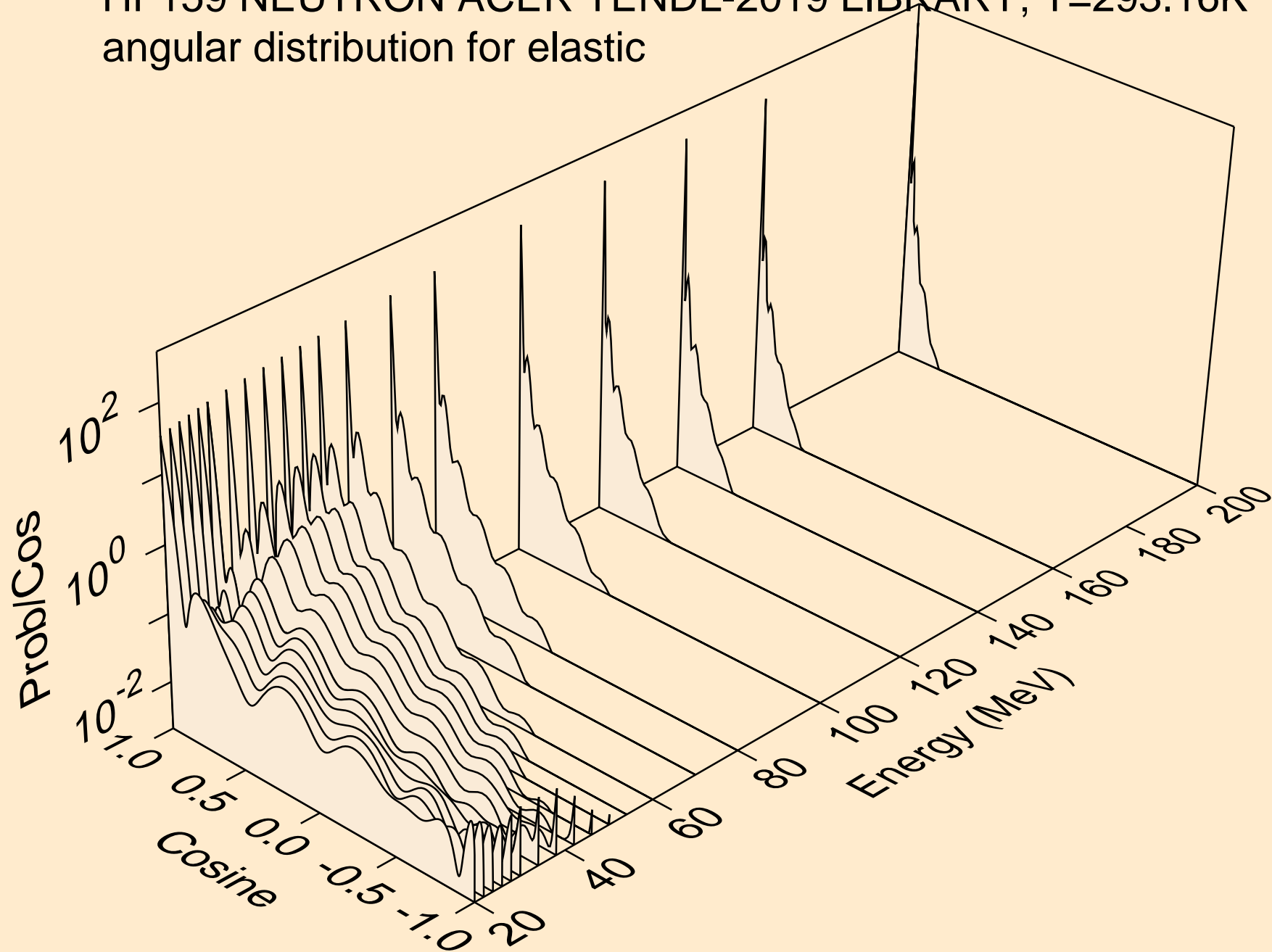
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Threshold reactions



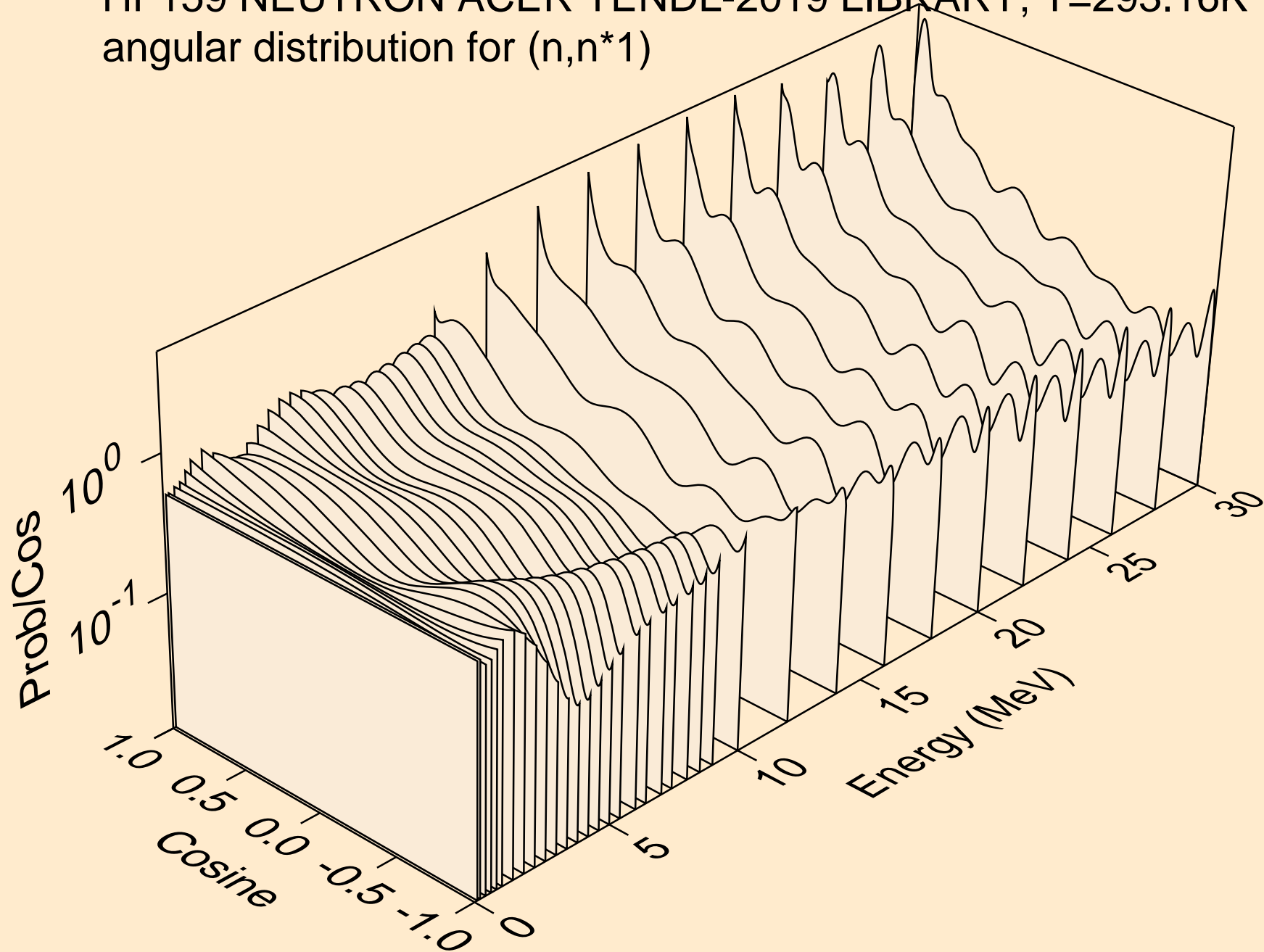
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for elastic



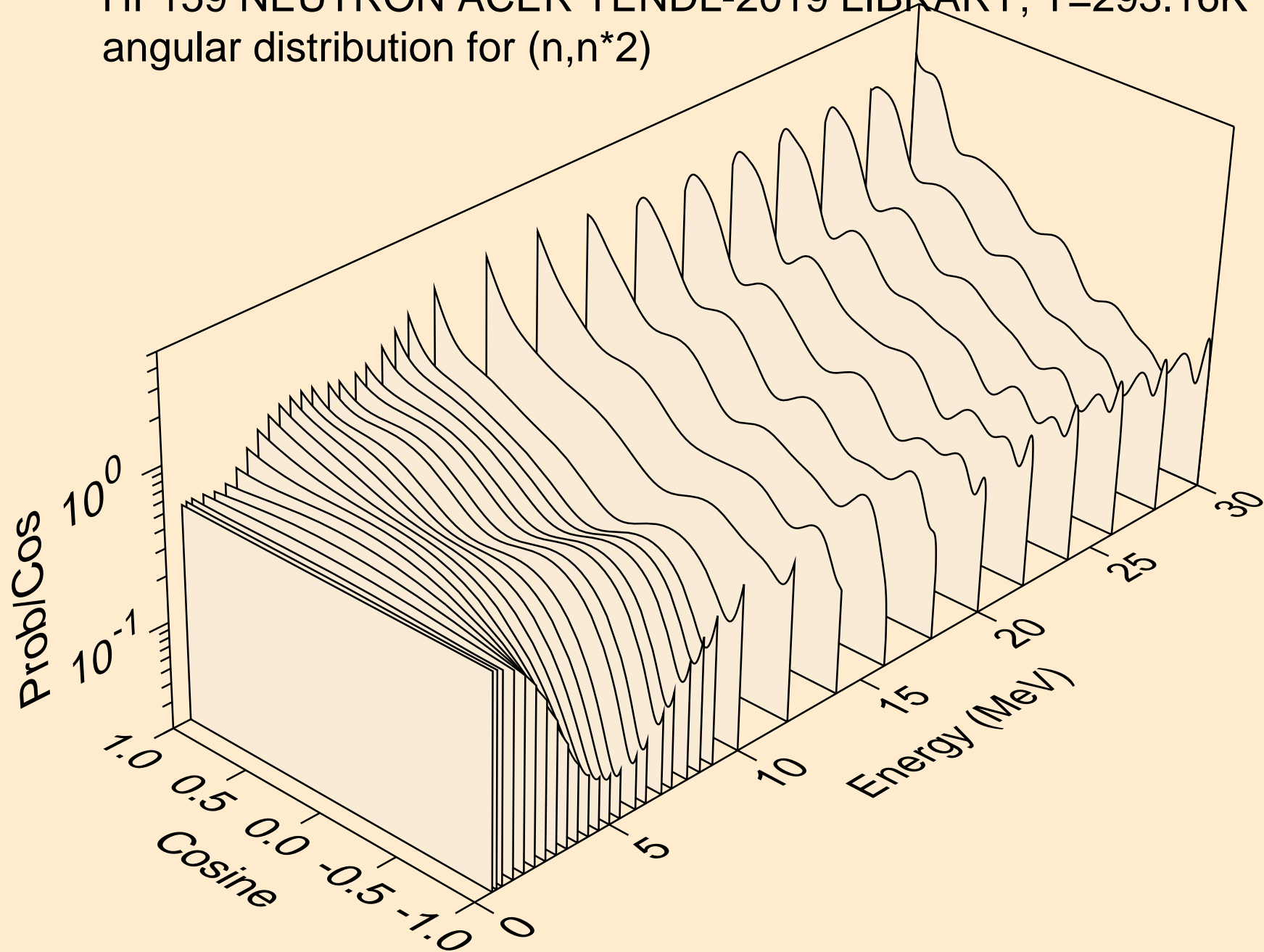
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for elastic



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for (n,n\*1)

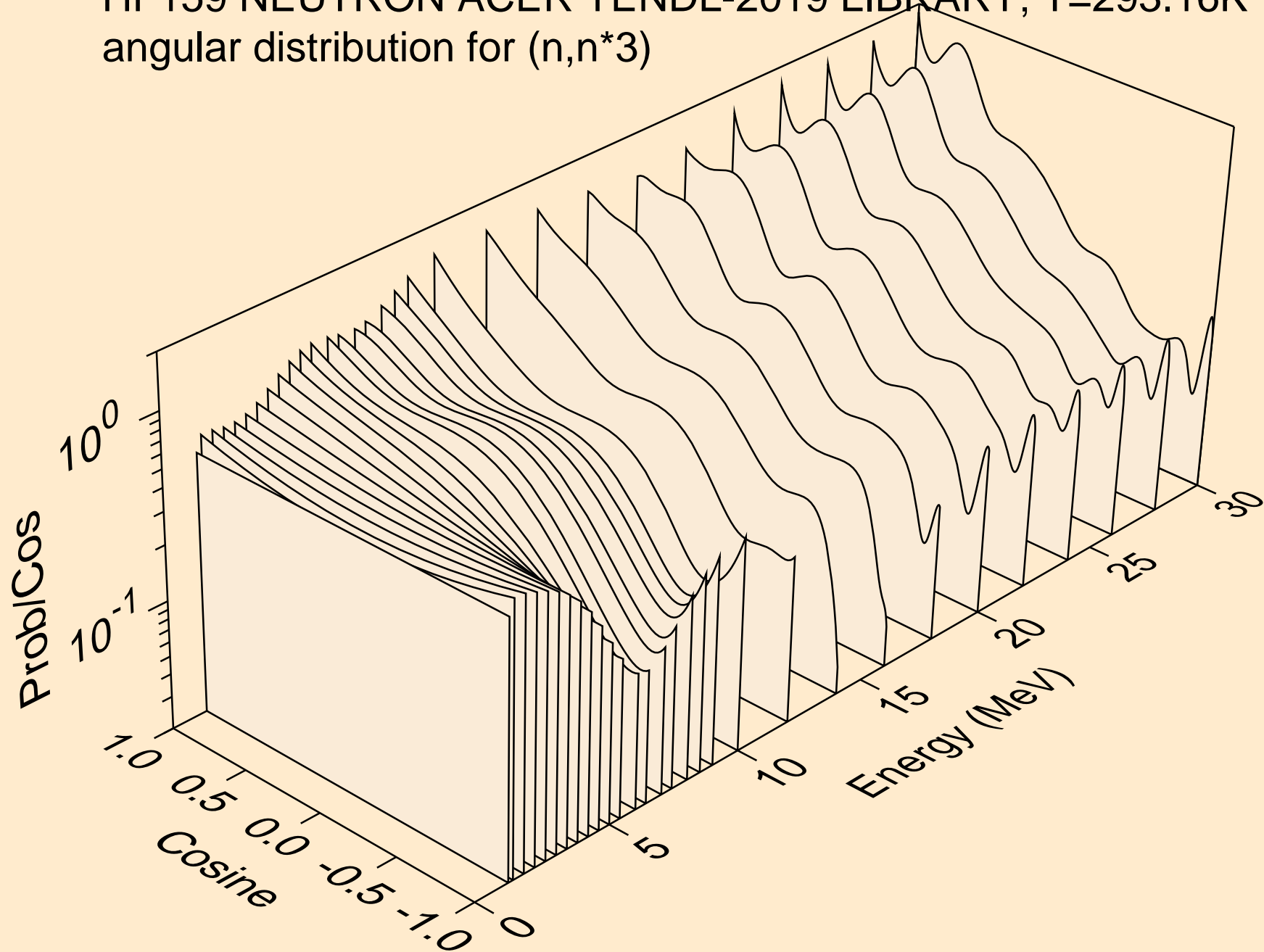


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for (n,n\*2)

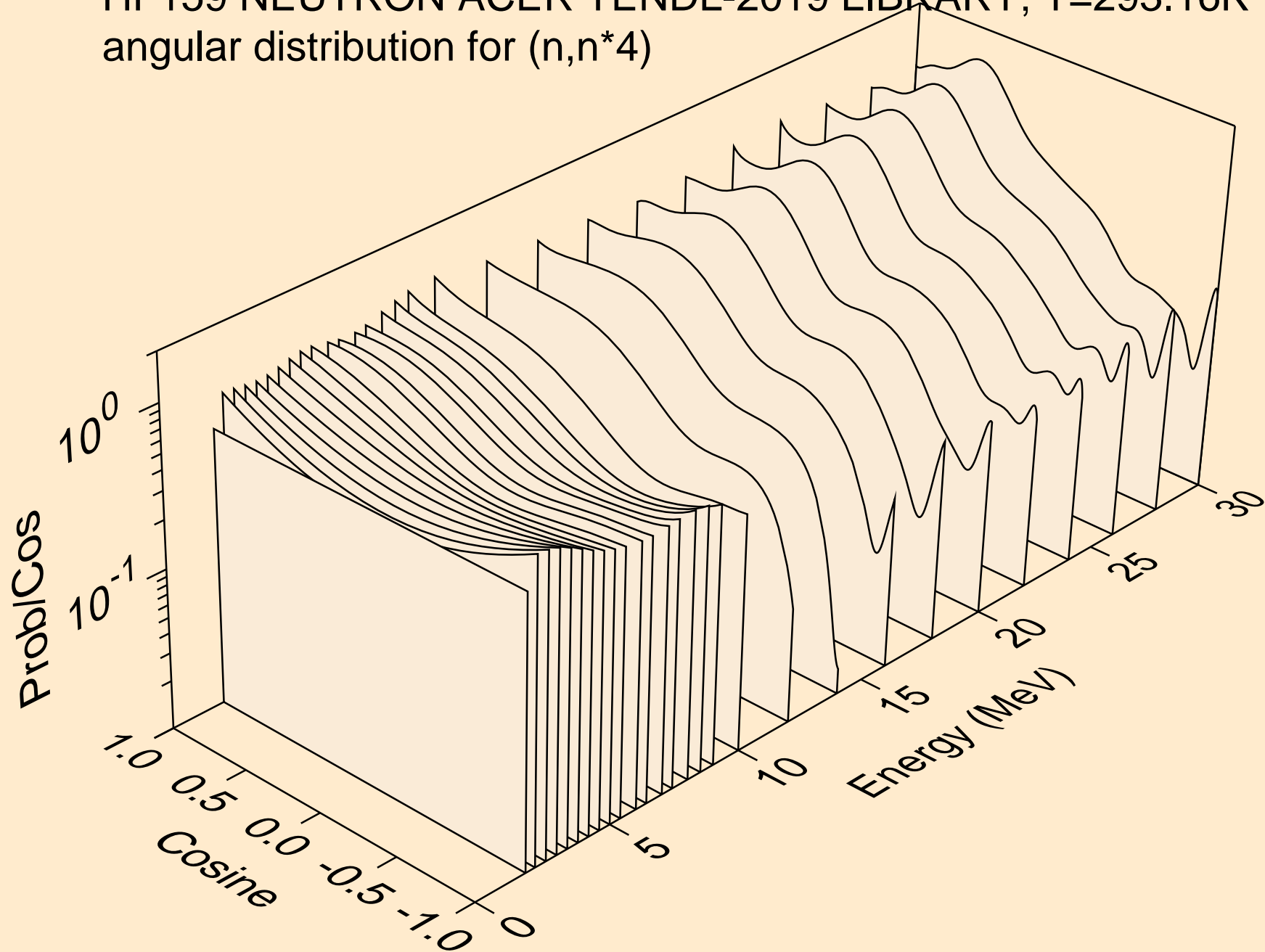




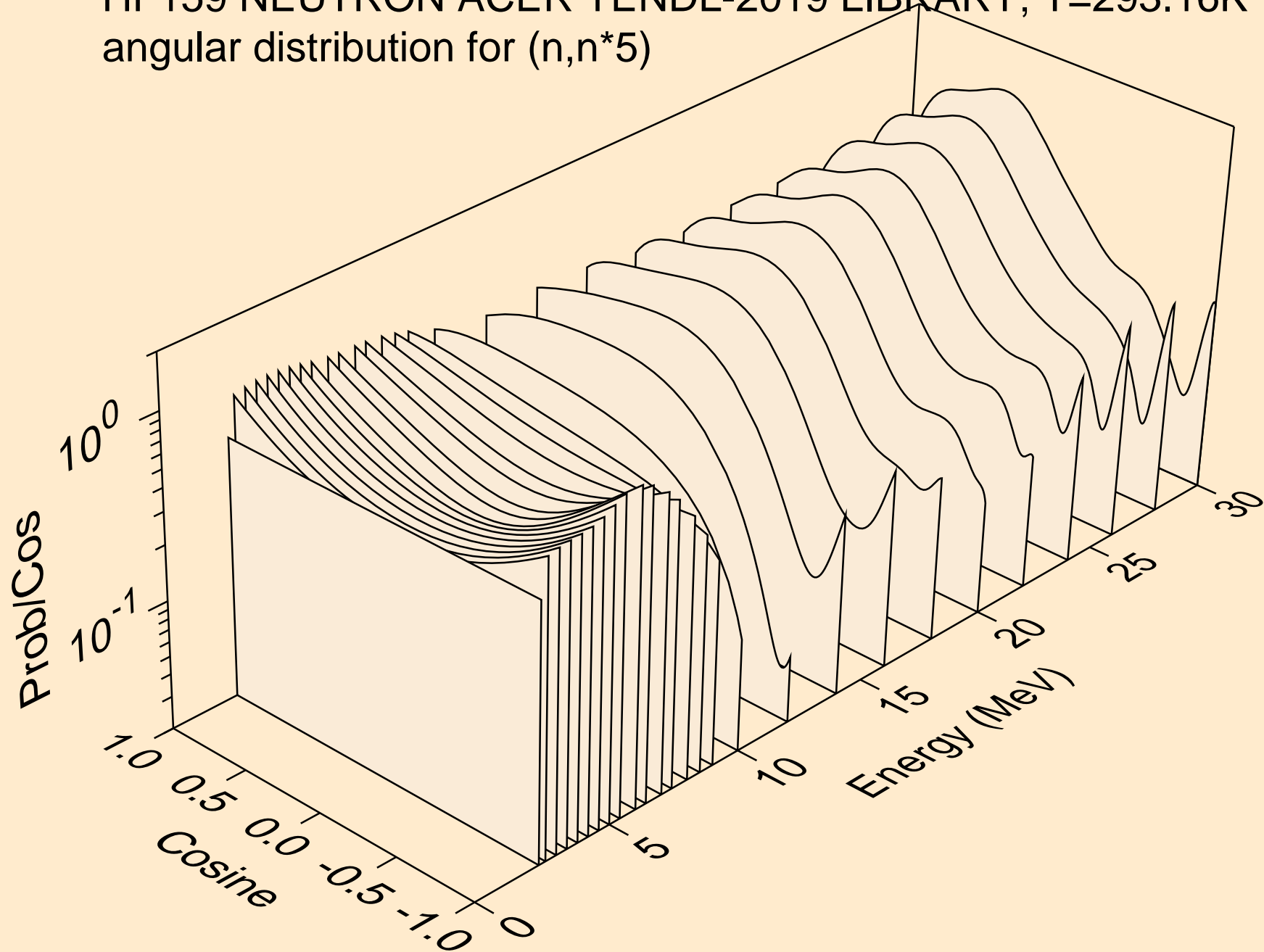
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angular distribution for (n,n\*3)



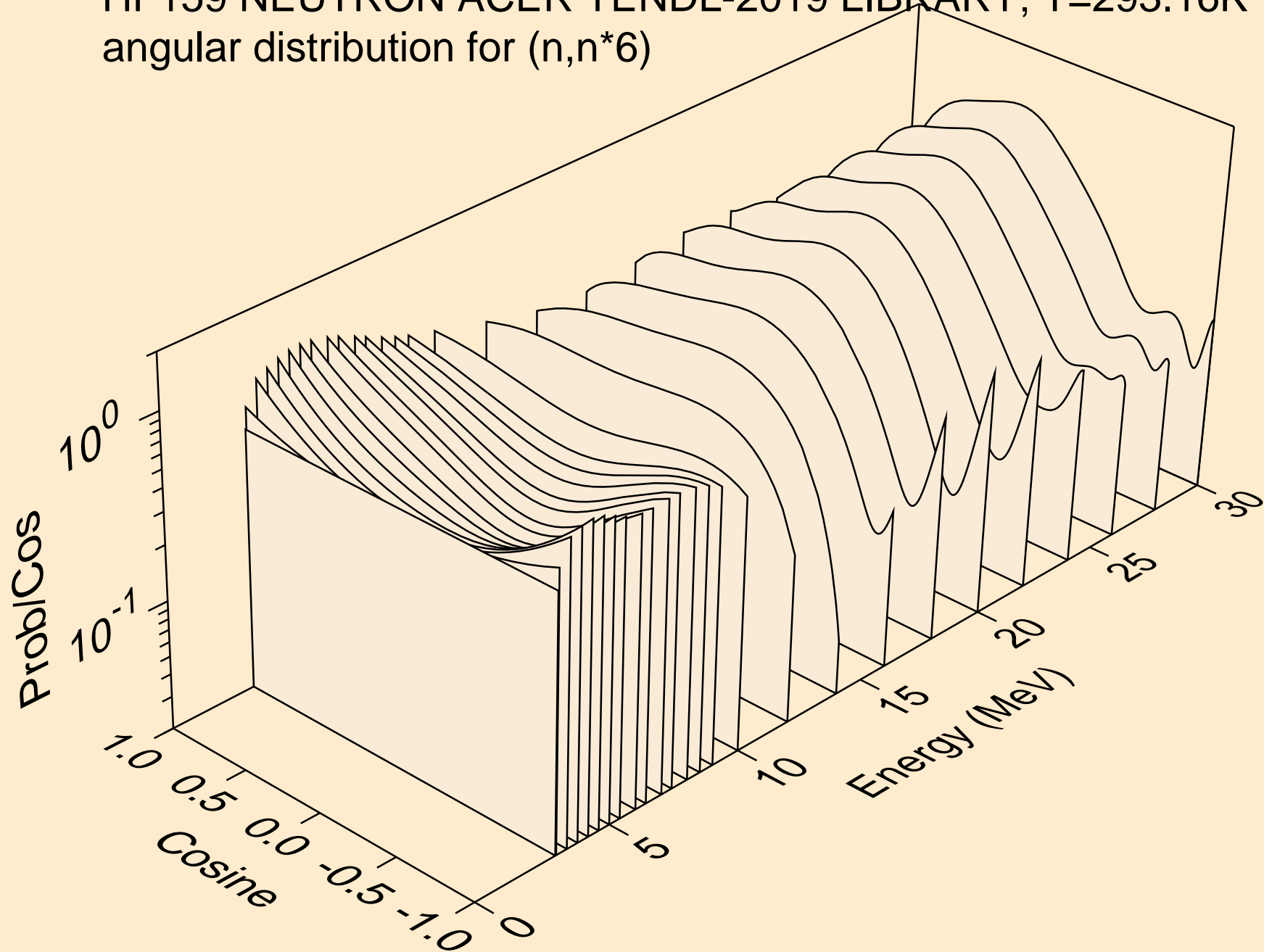
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angular distribution for (n,n\*4)



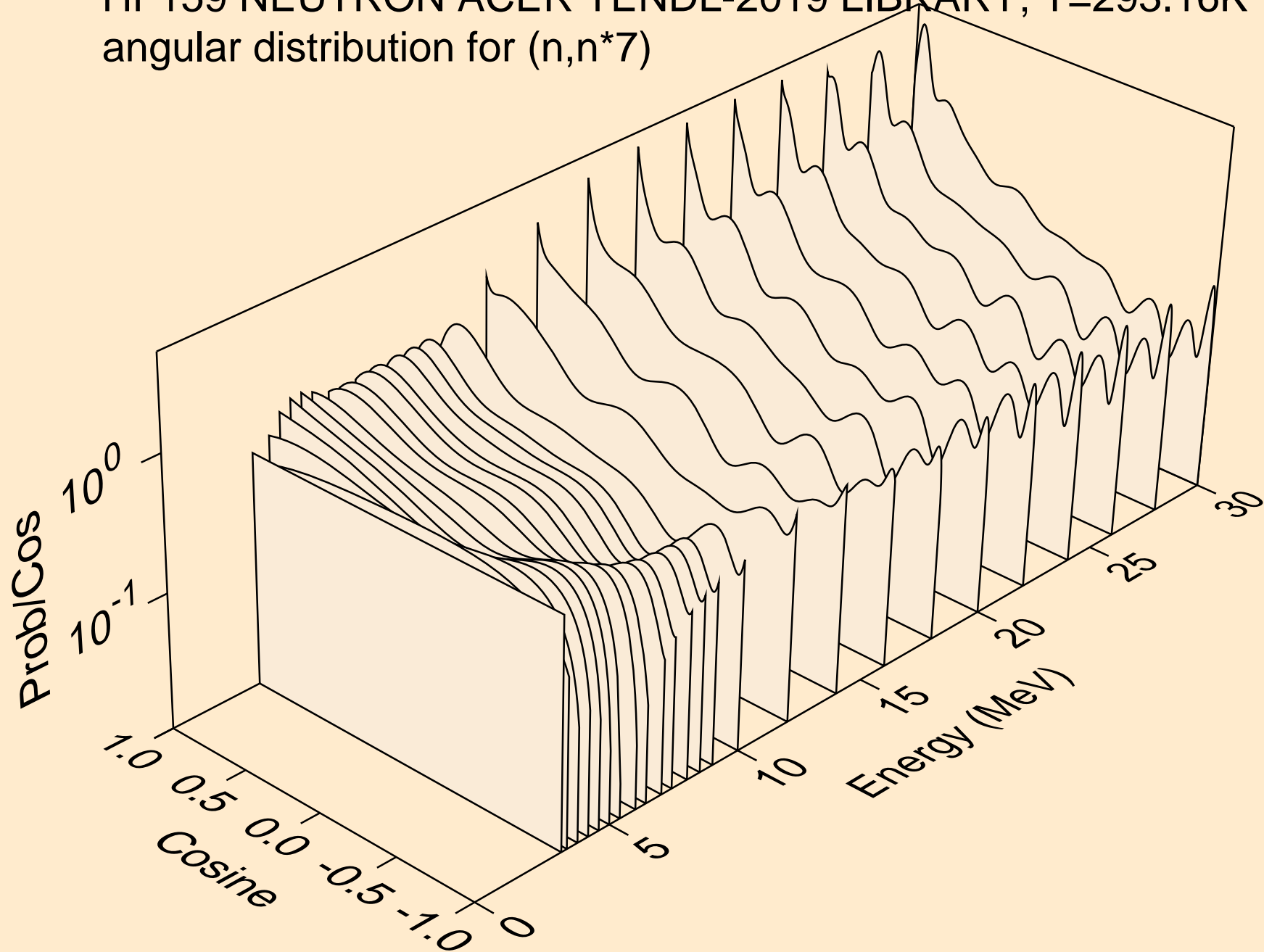
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angular distribution for (n,n\*5)



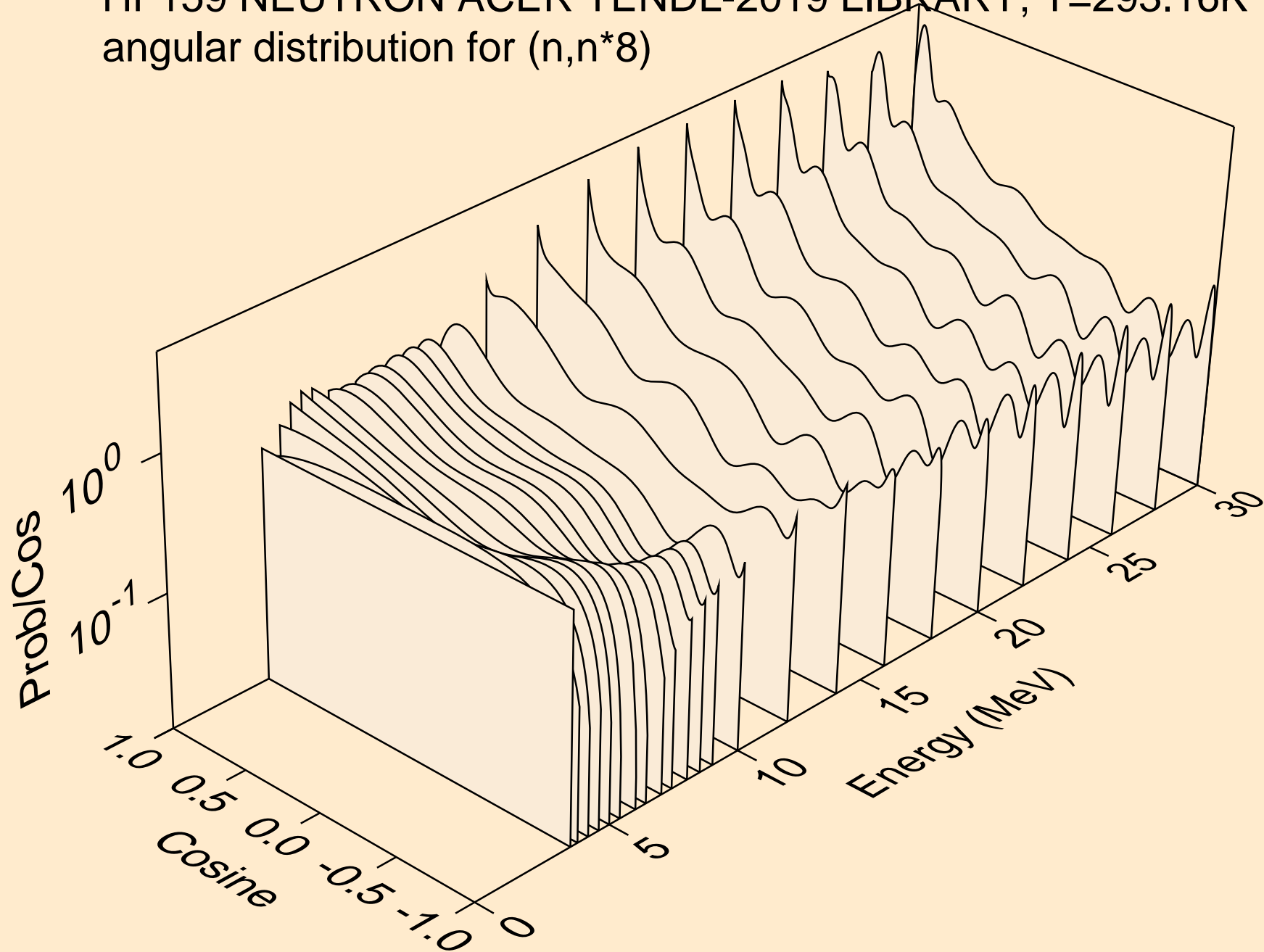
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angular distribution for (n,n\*6)



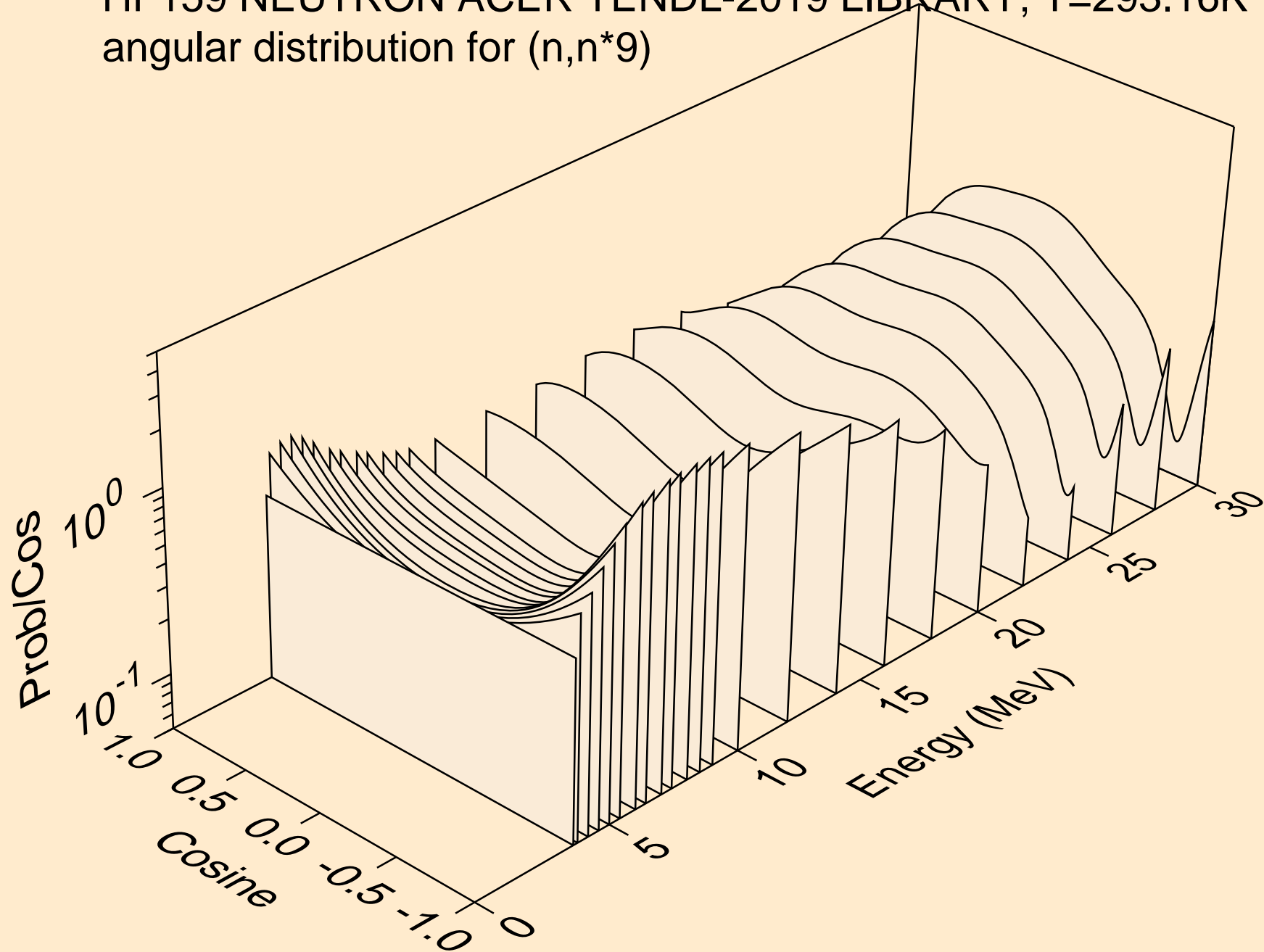
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angular distribution for (n,n\*7)



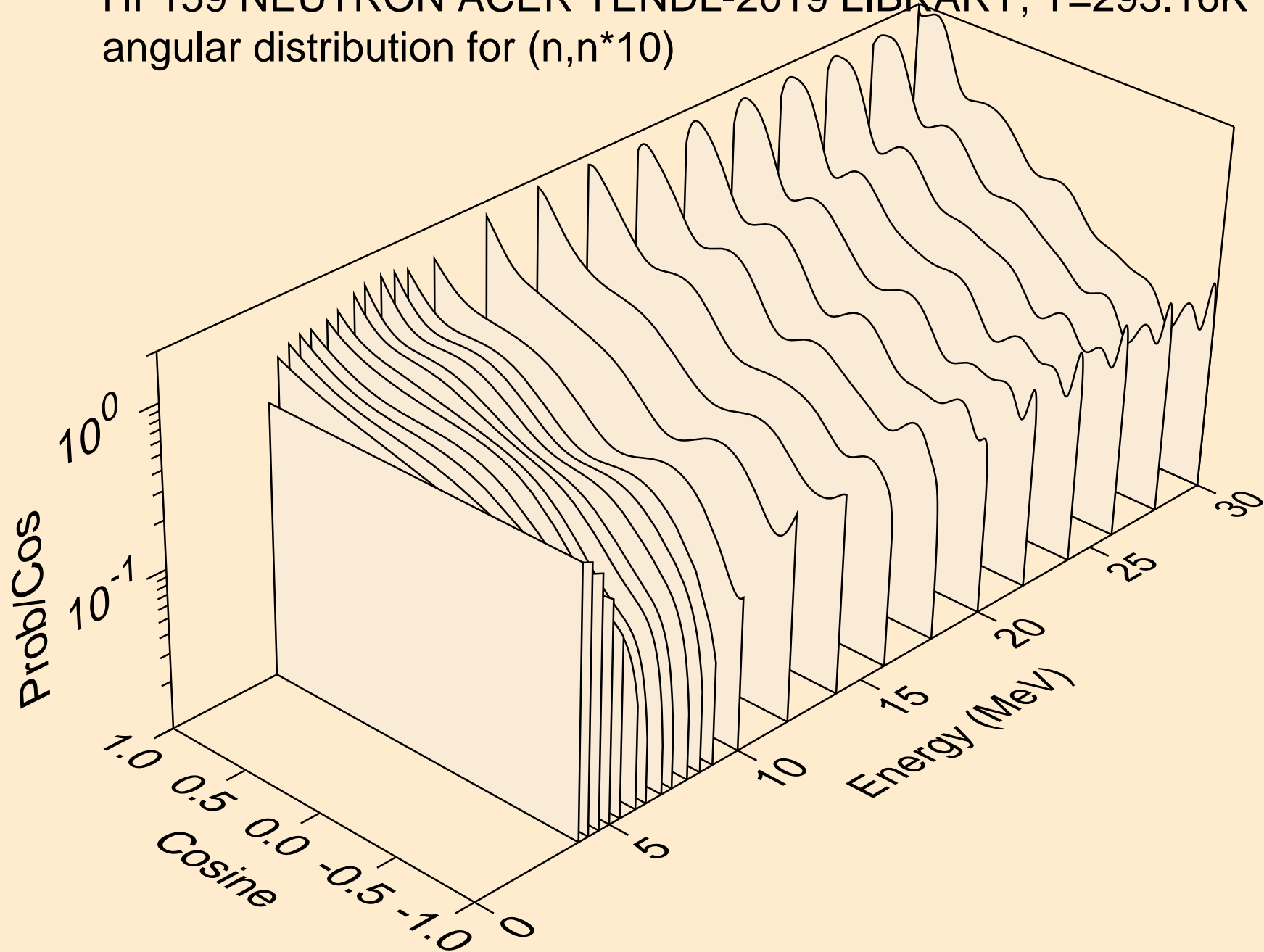
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for (n,n\*8)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for (n,n\*9)

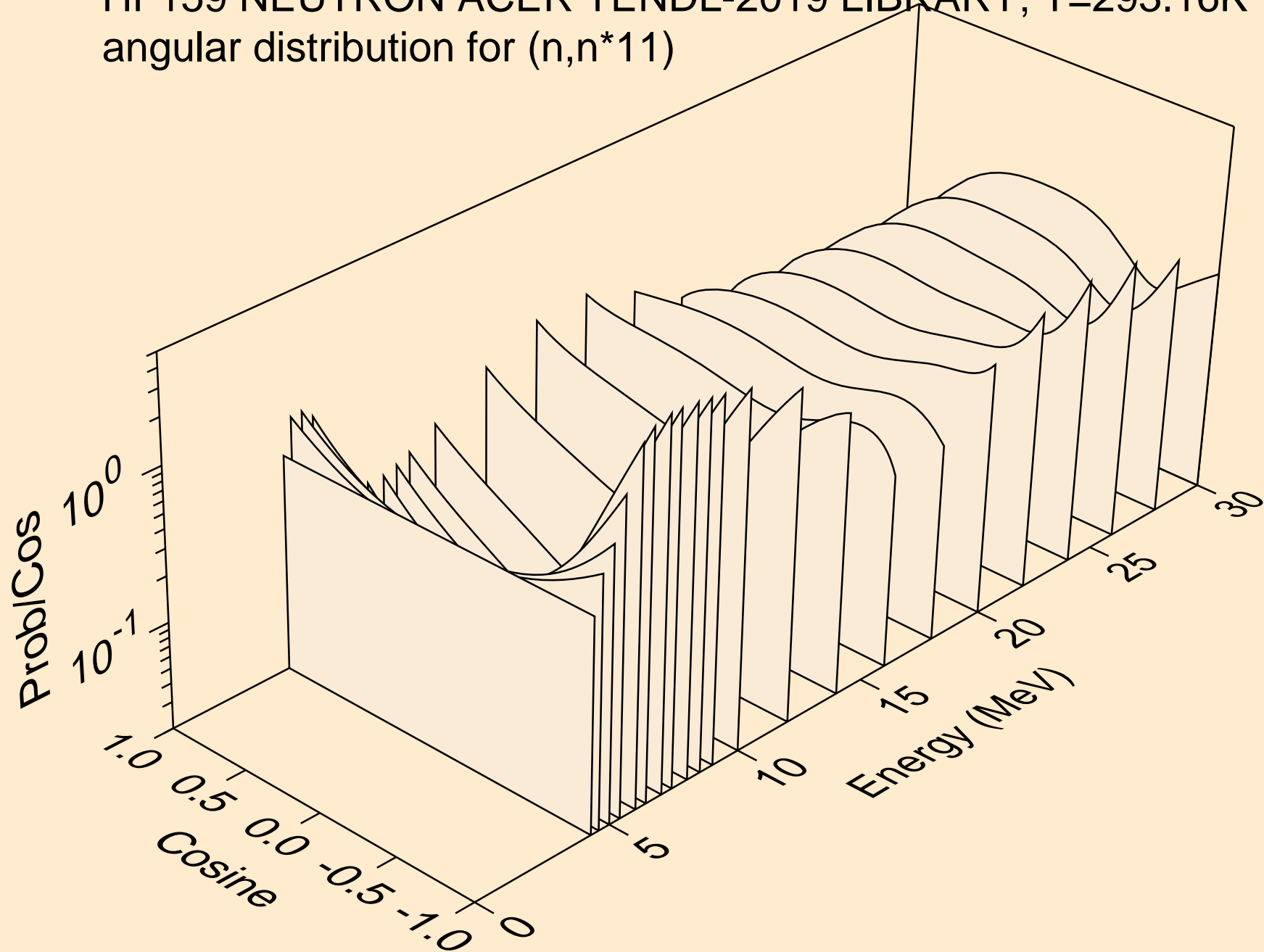


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
angular distribution for (n,n\*10)

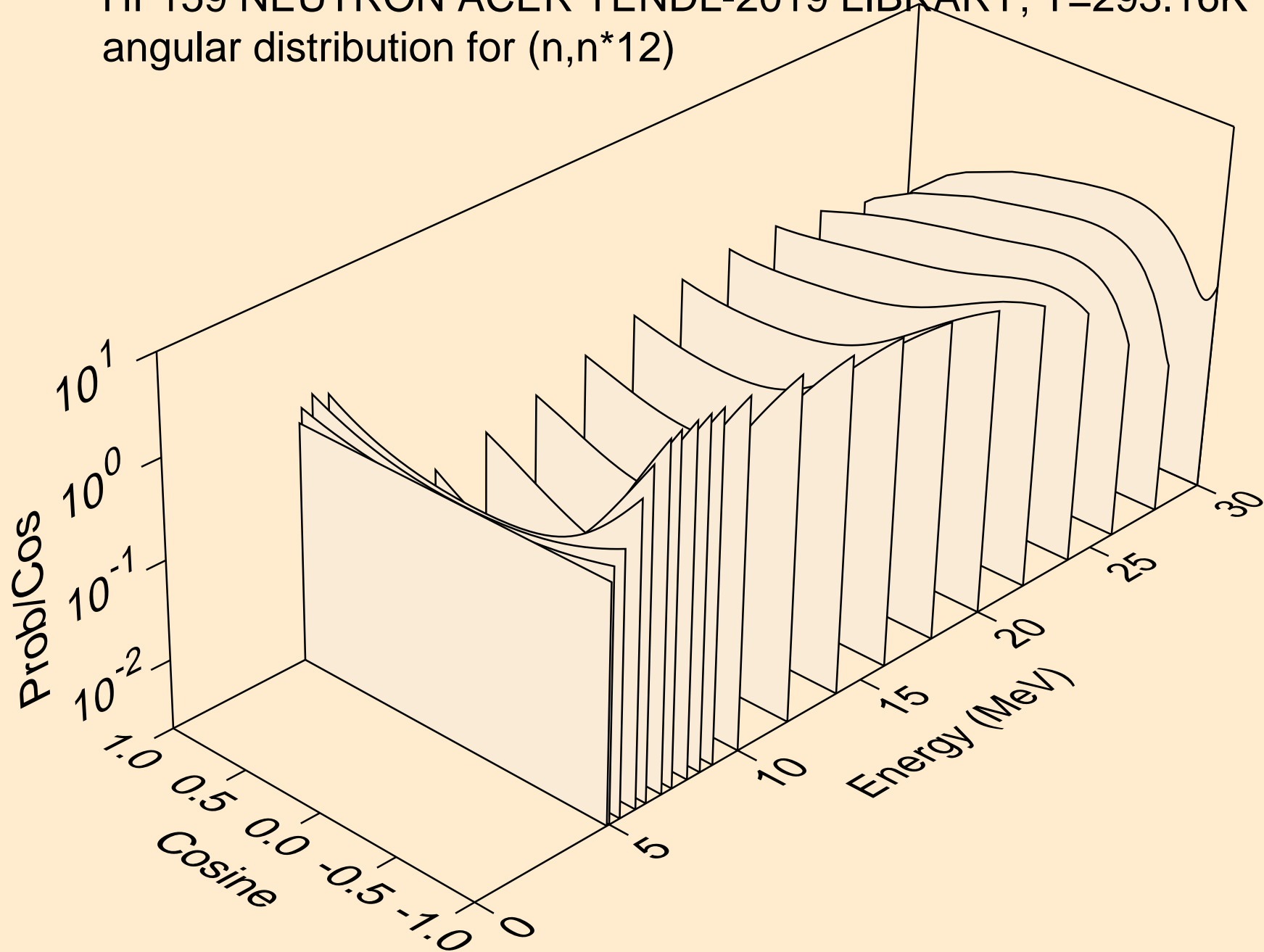




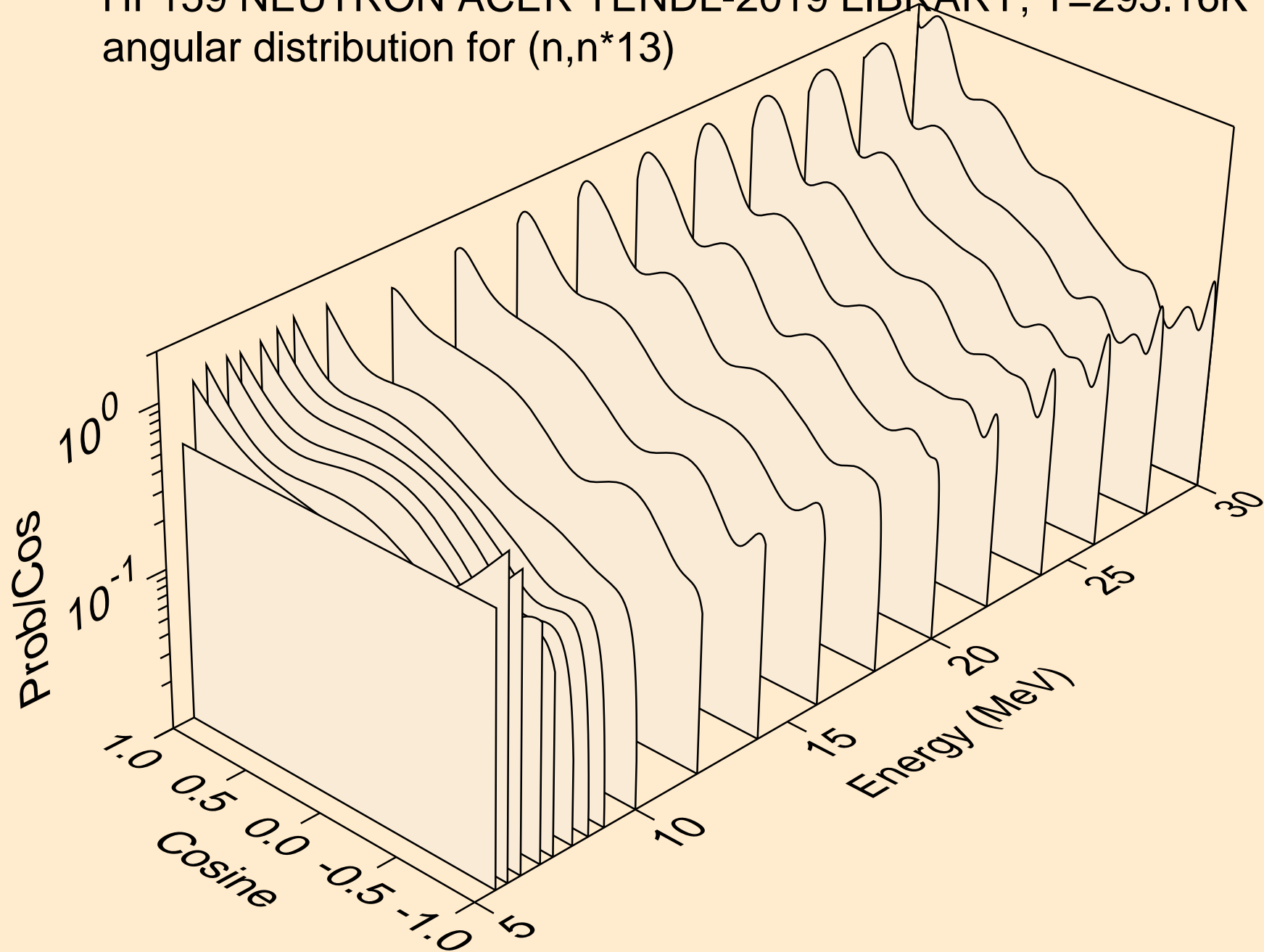
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angular distribution for (n,n\*11)



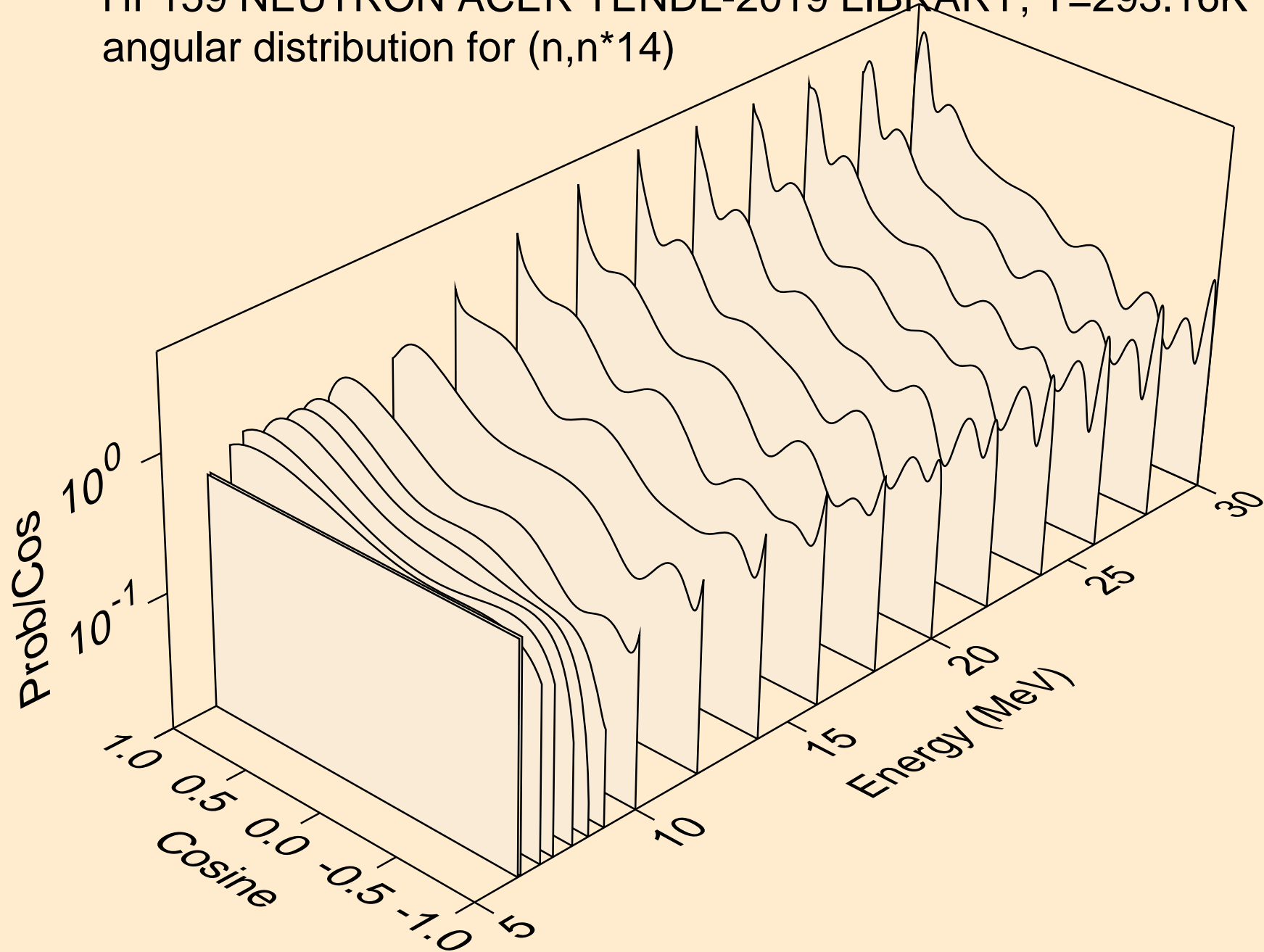
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angular distribution for (n,n\*12)



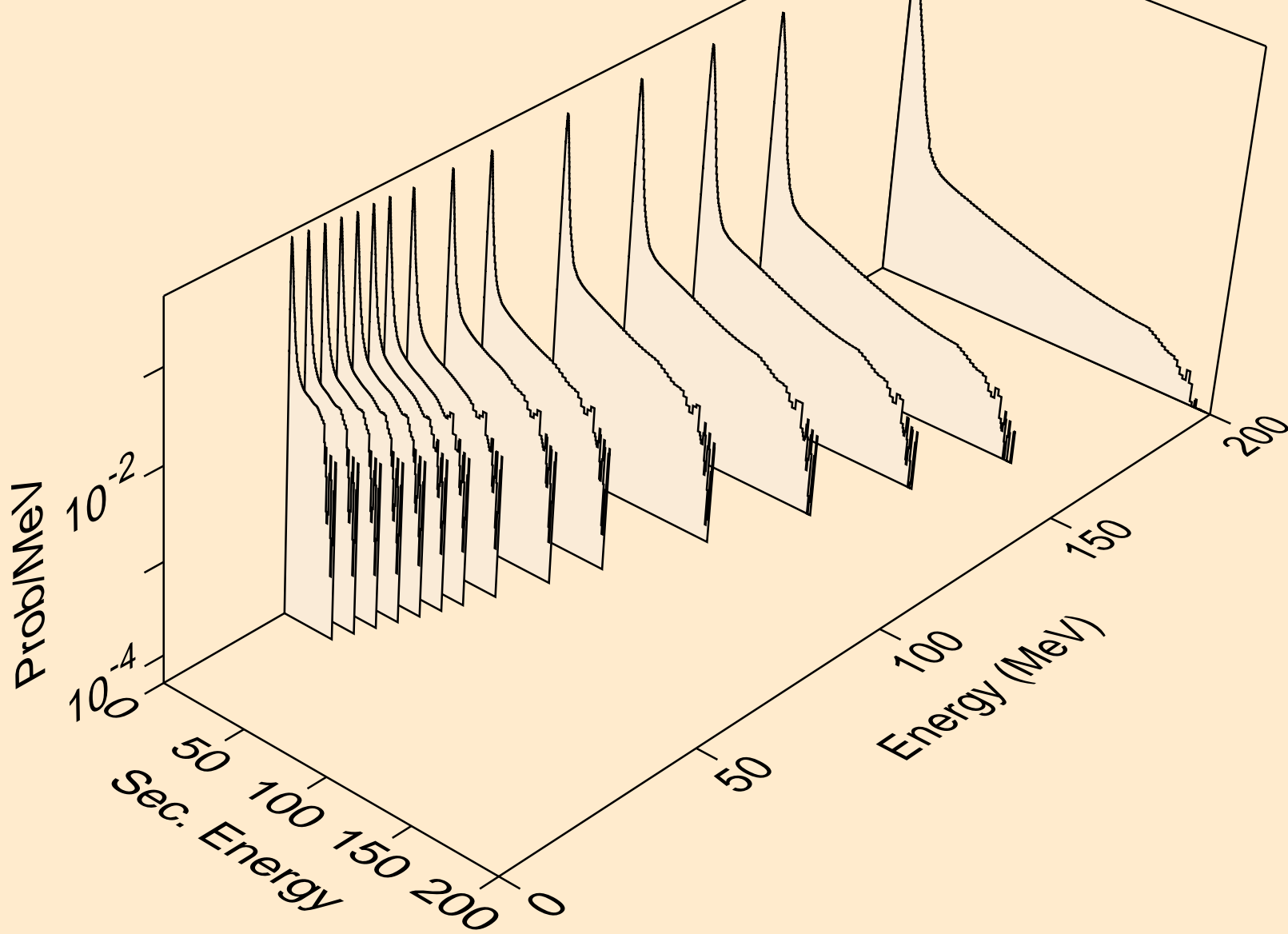
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angular distribution for (n,n\*13)



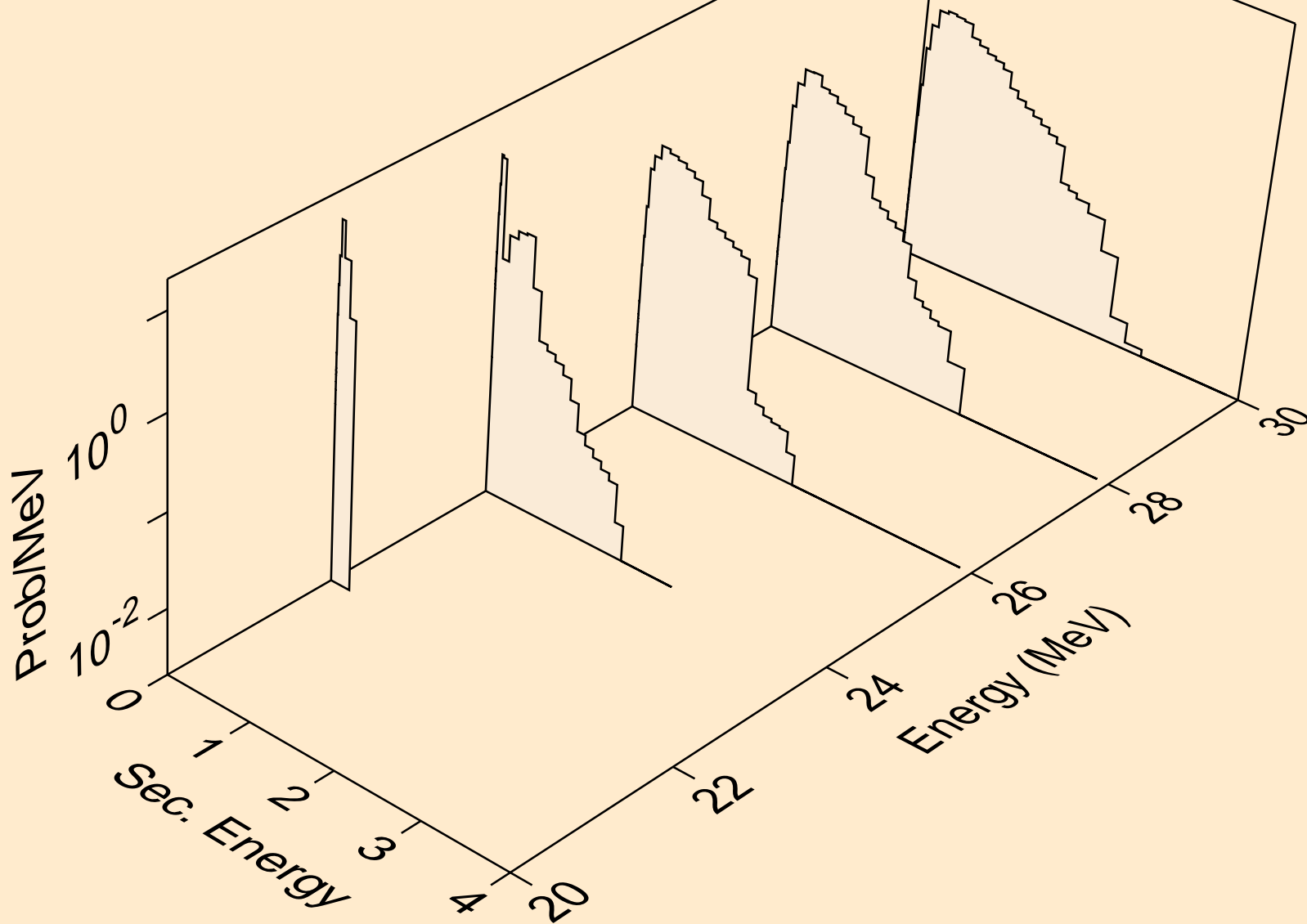
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angular distribution for (n,n\*14)



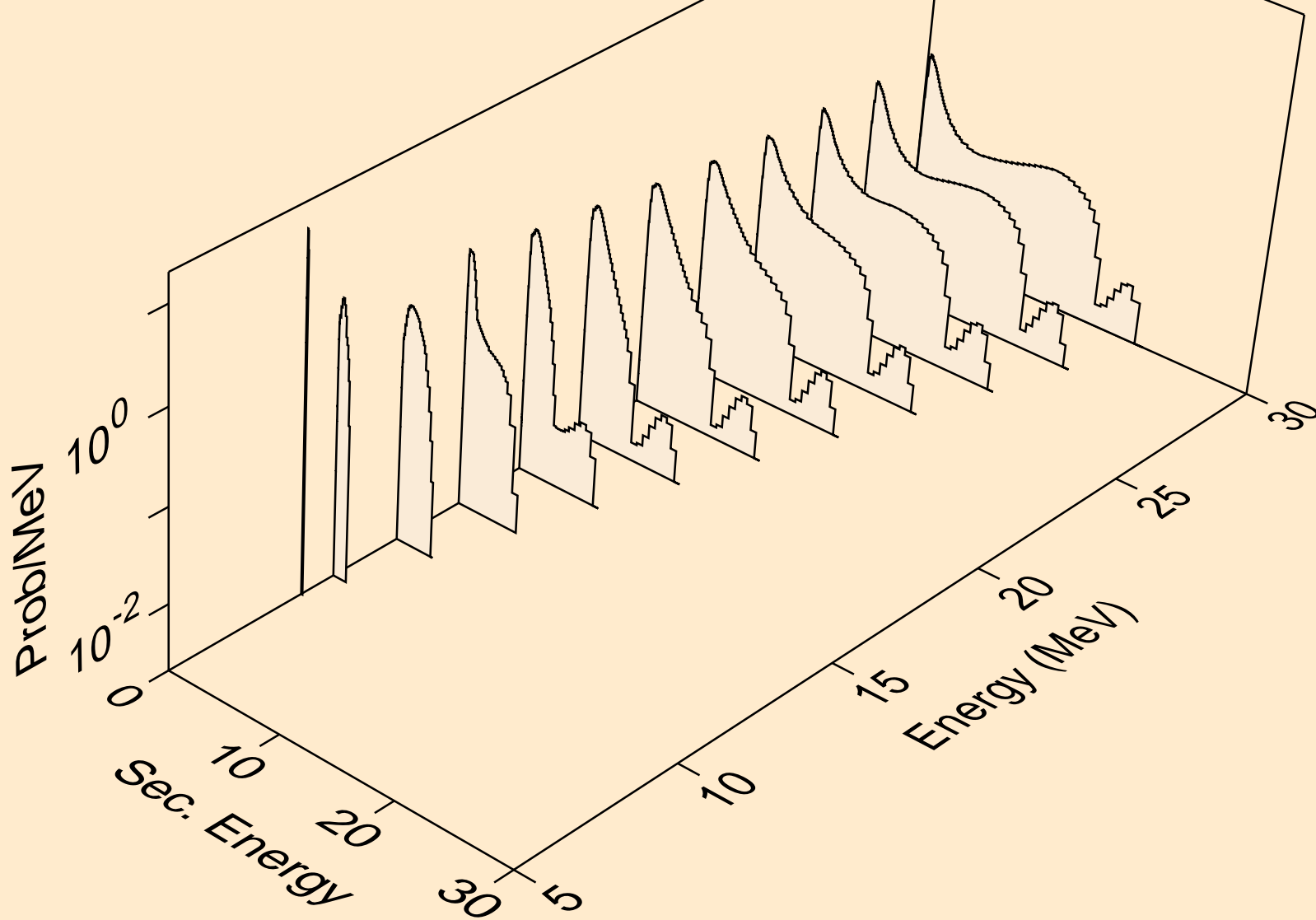
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Neutron emission for (n,x)



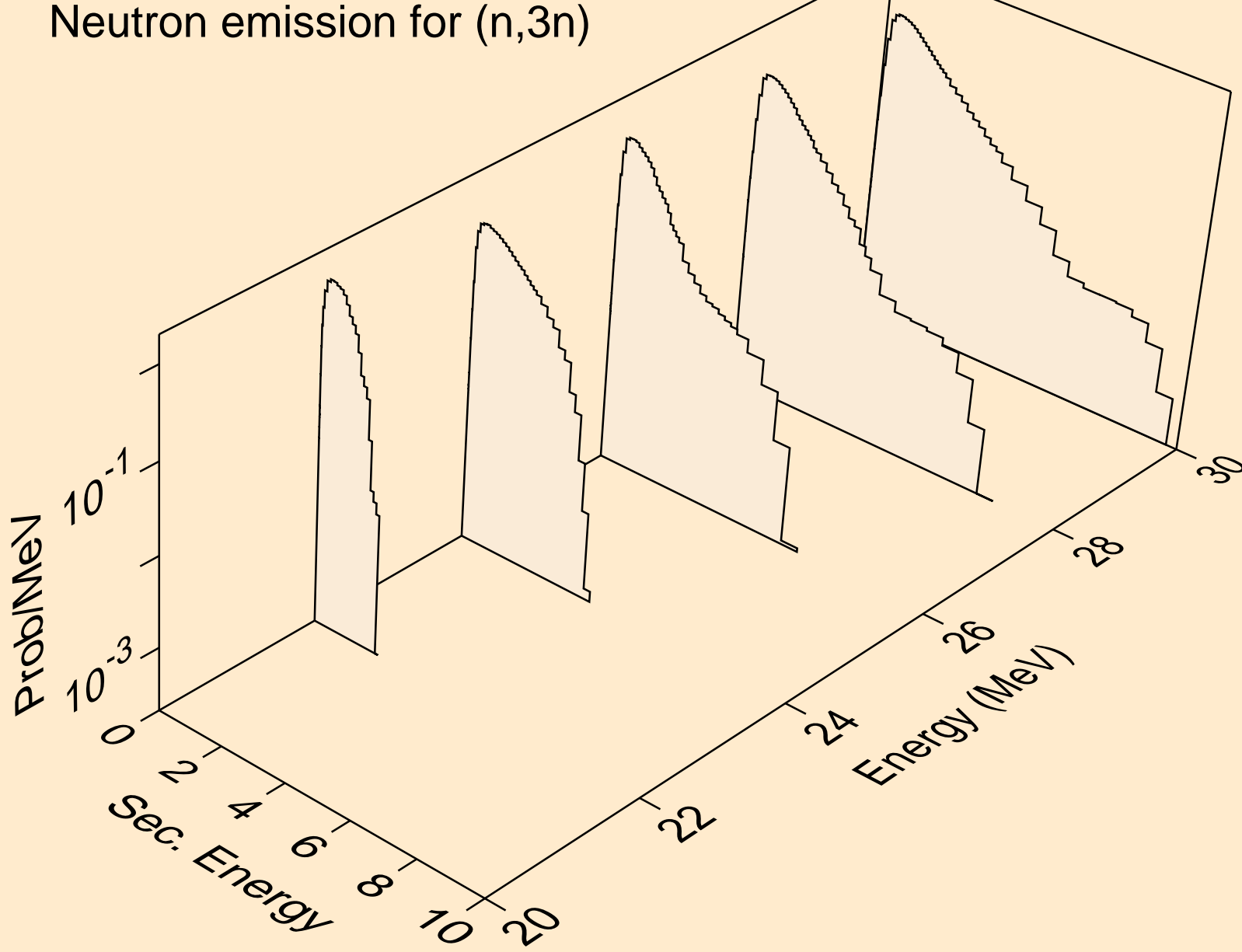
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,2nd)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,2n)

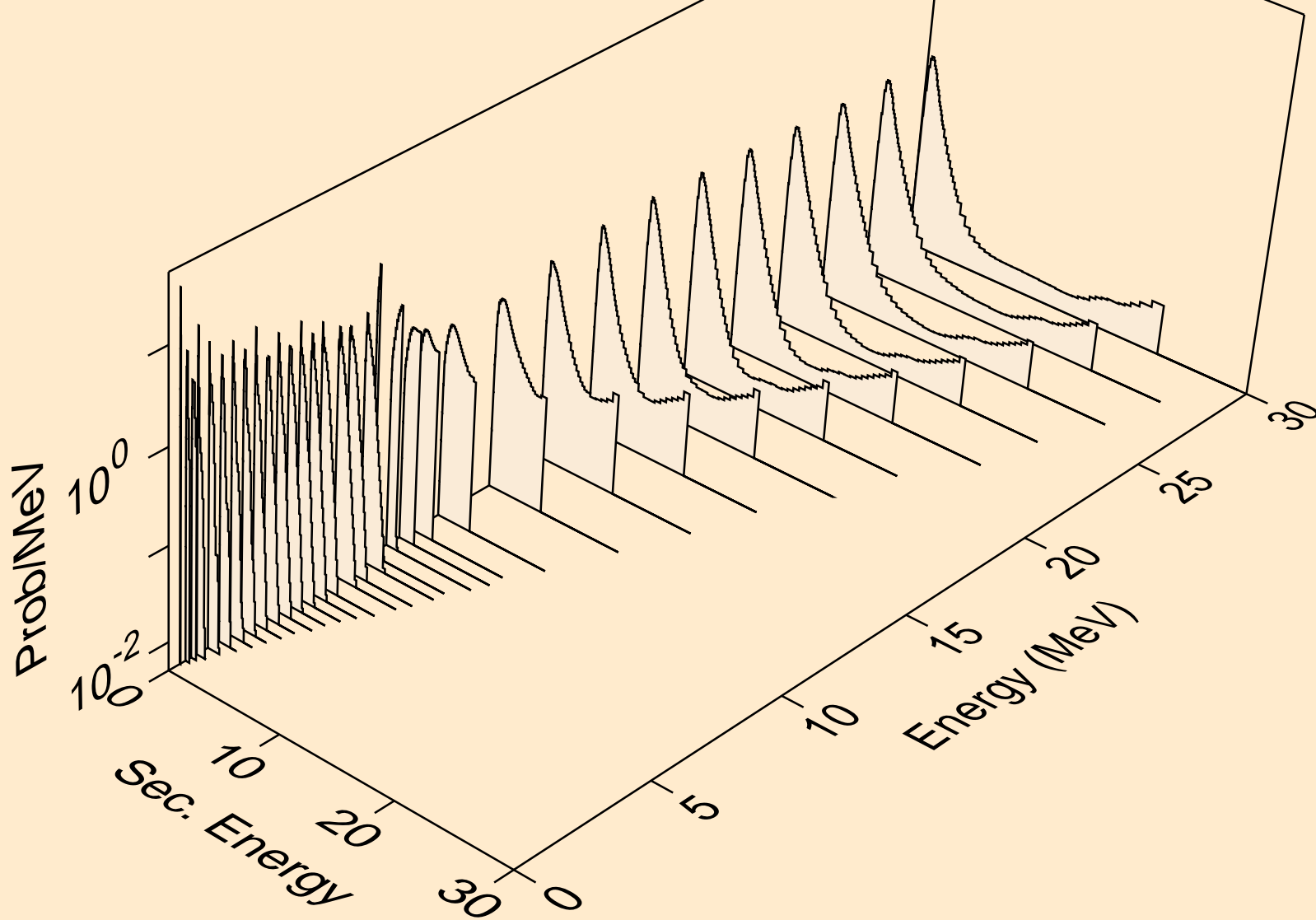


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,3n)

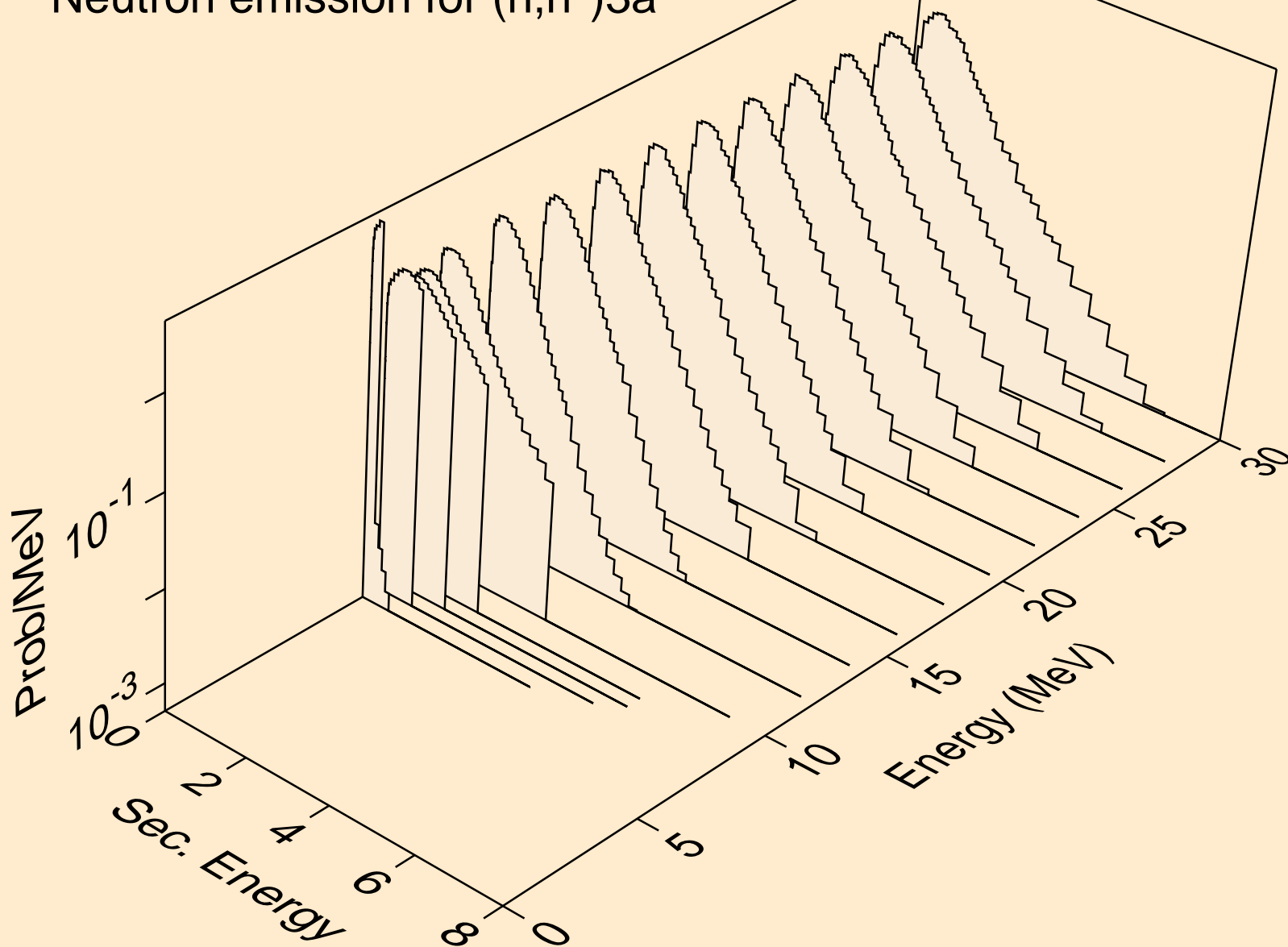




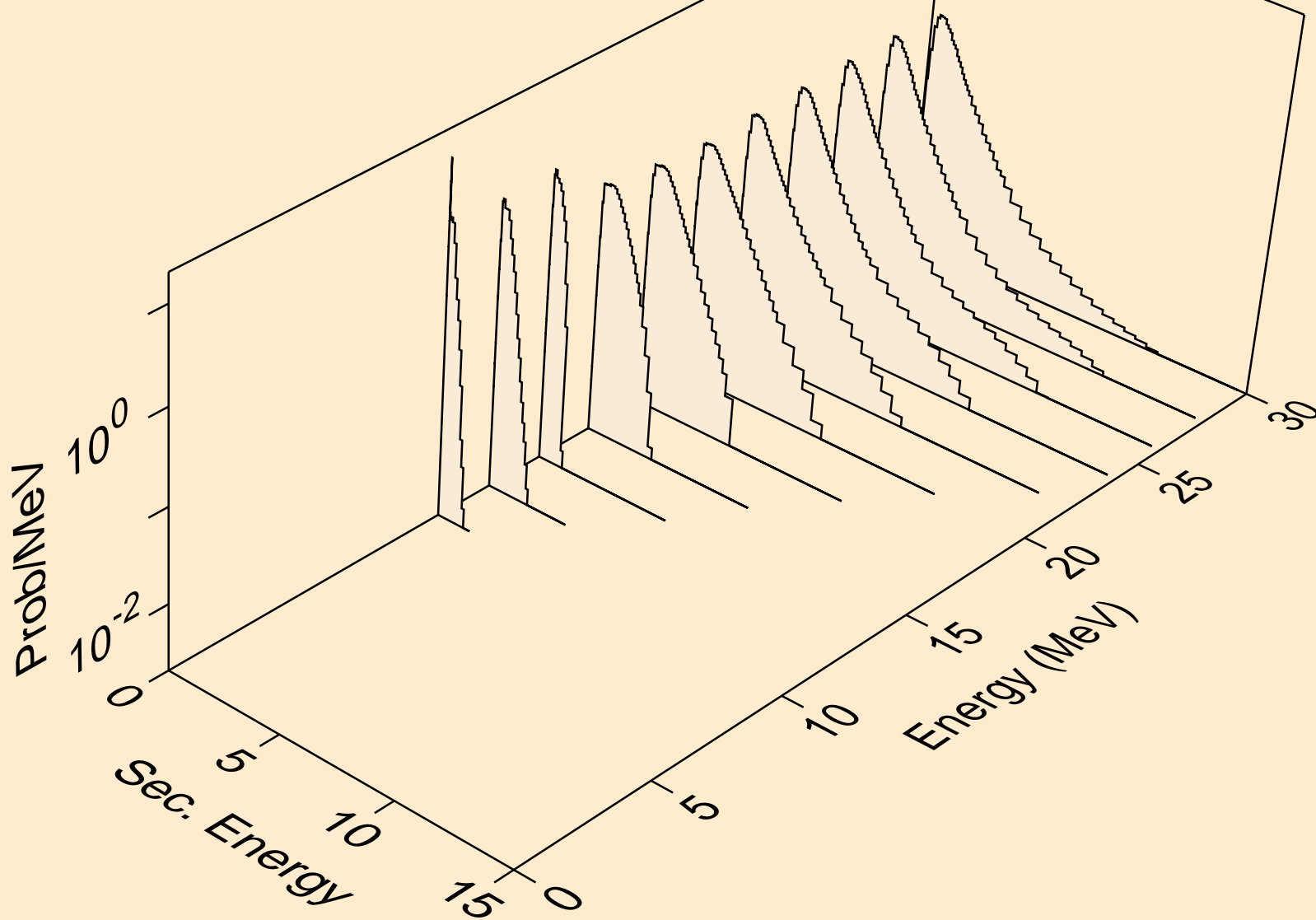
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,n\*)a



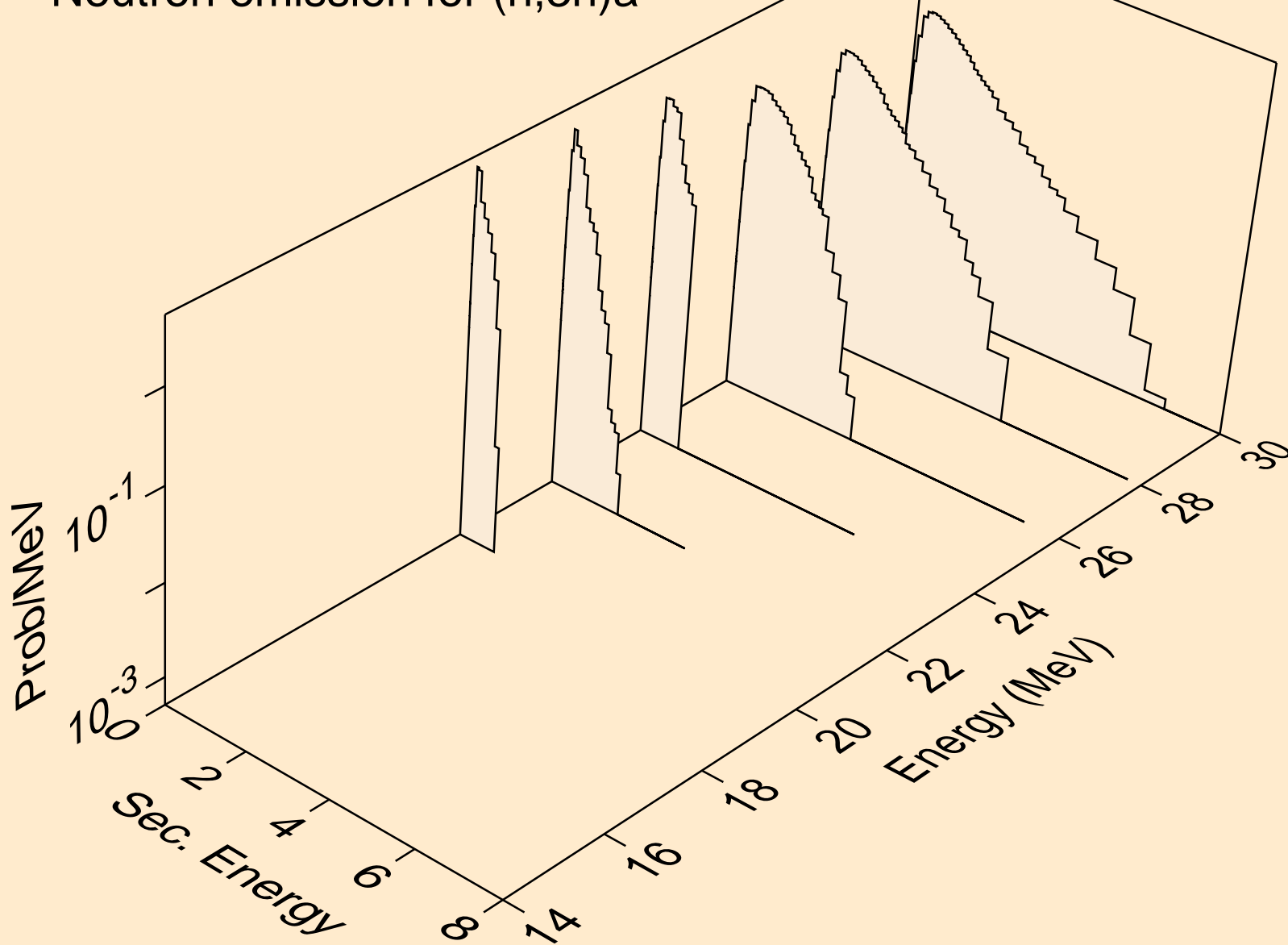
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Neutron emission for (n,n\*)3a



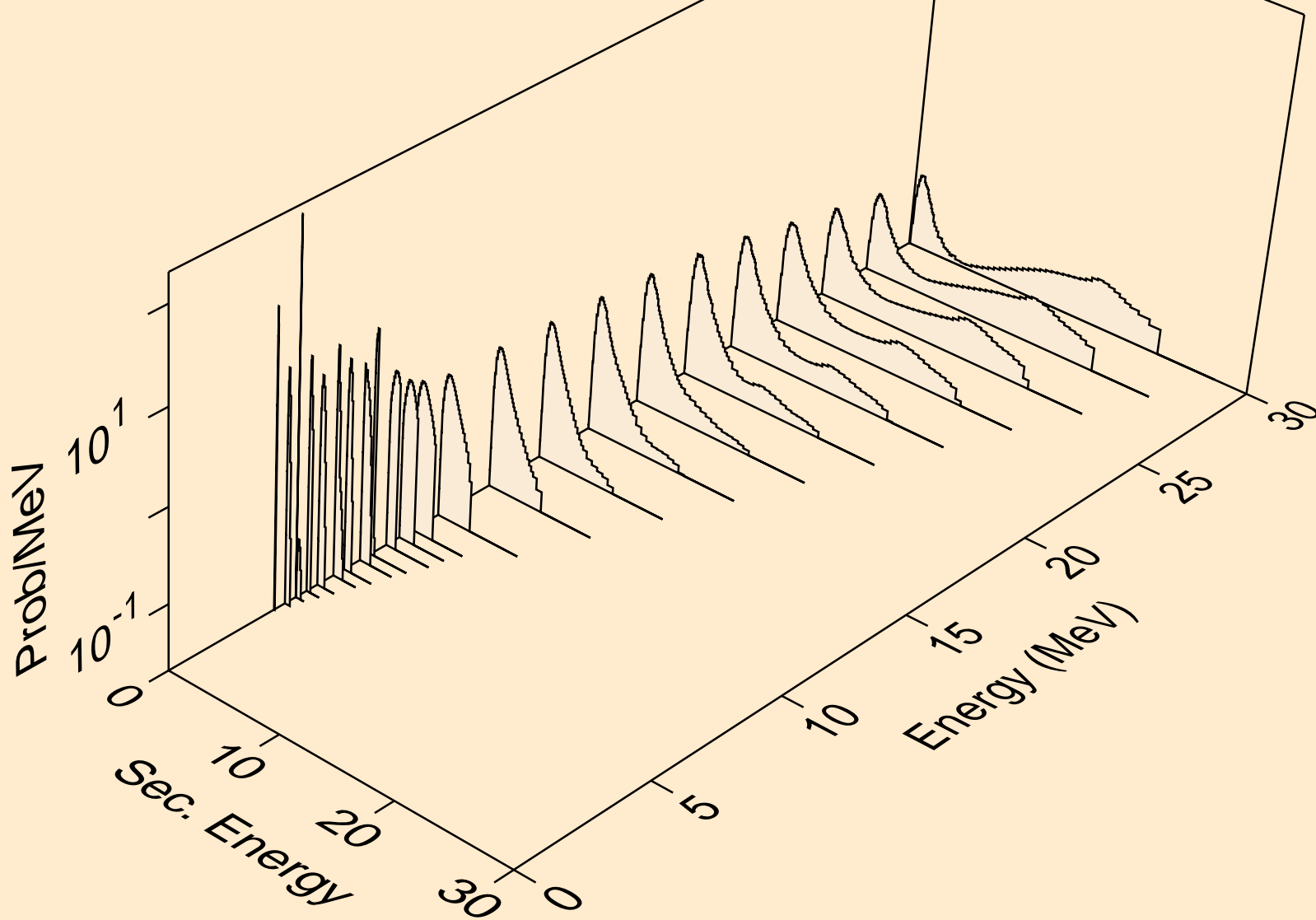
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Neutron emission for (n,2n)a



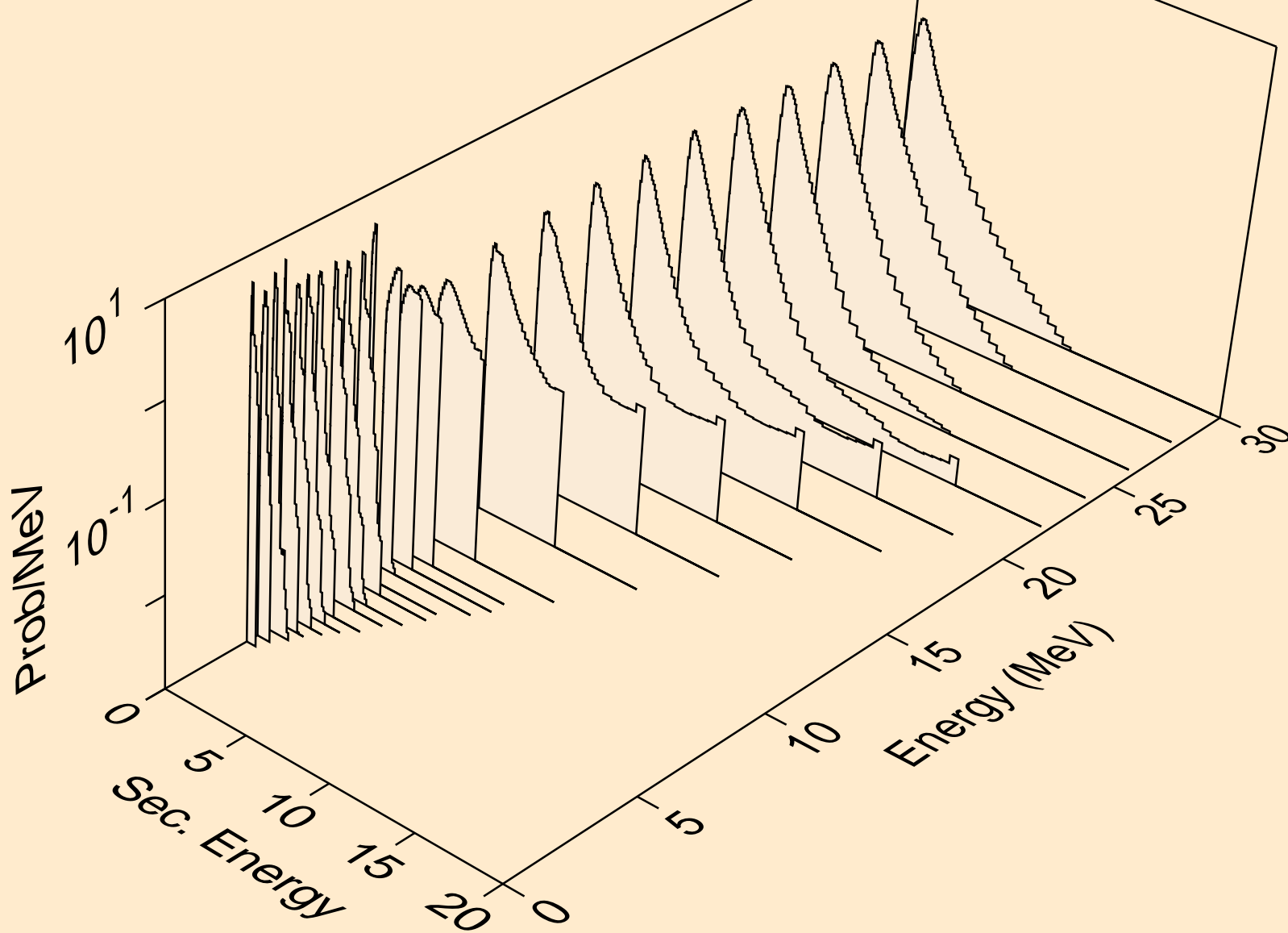
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Neutron emission for (n,3n)a



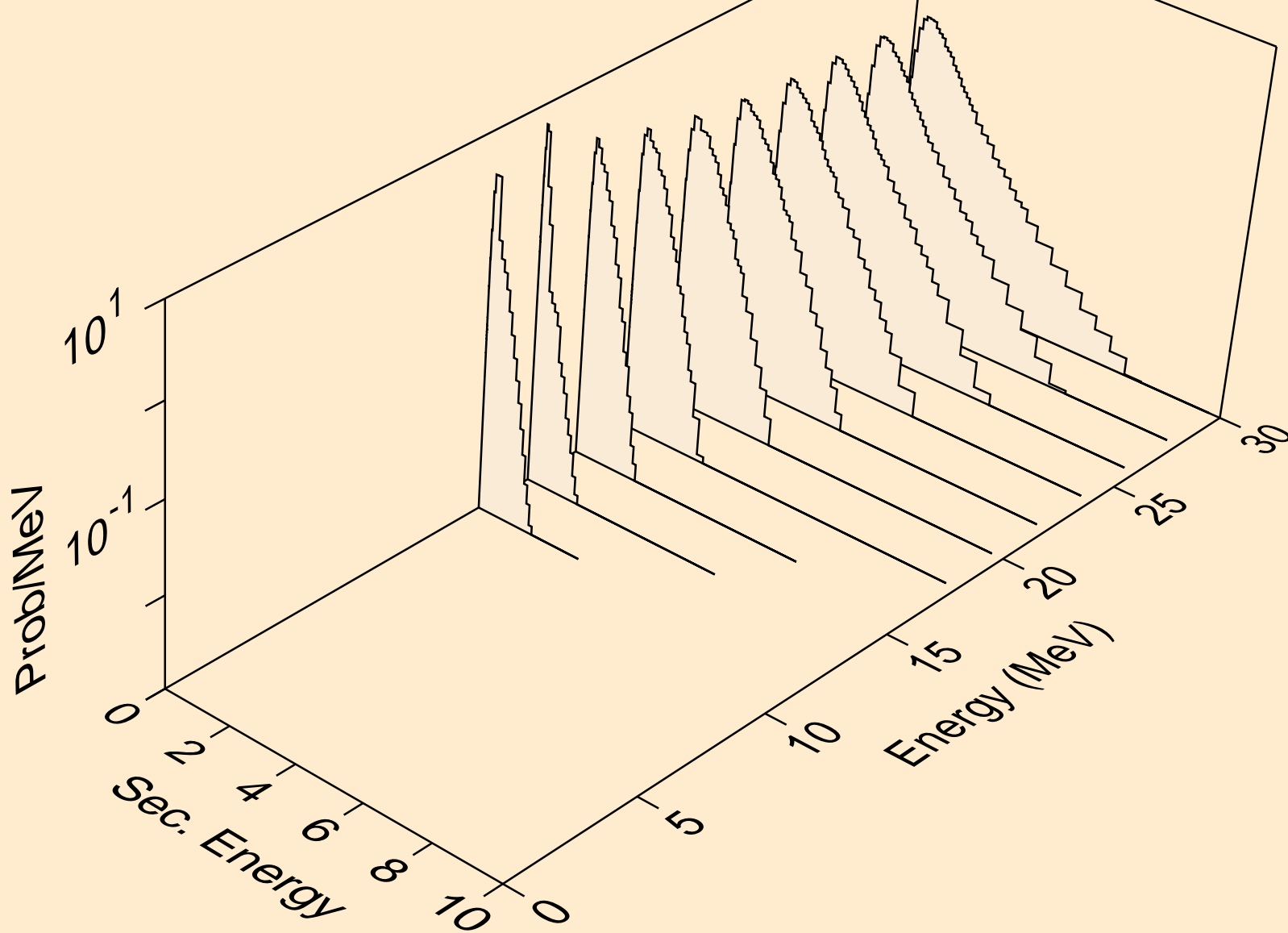
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Neutron emission for (n,n\*)p



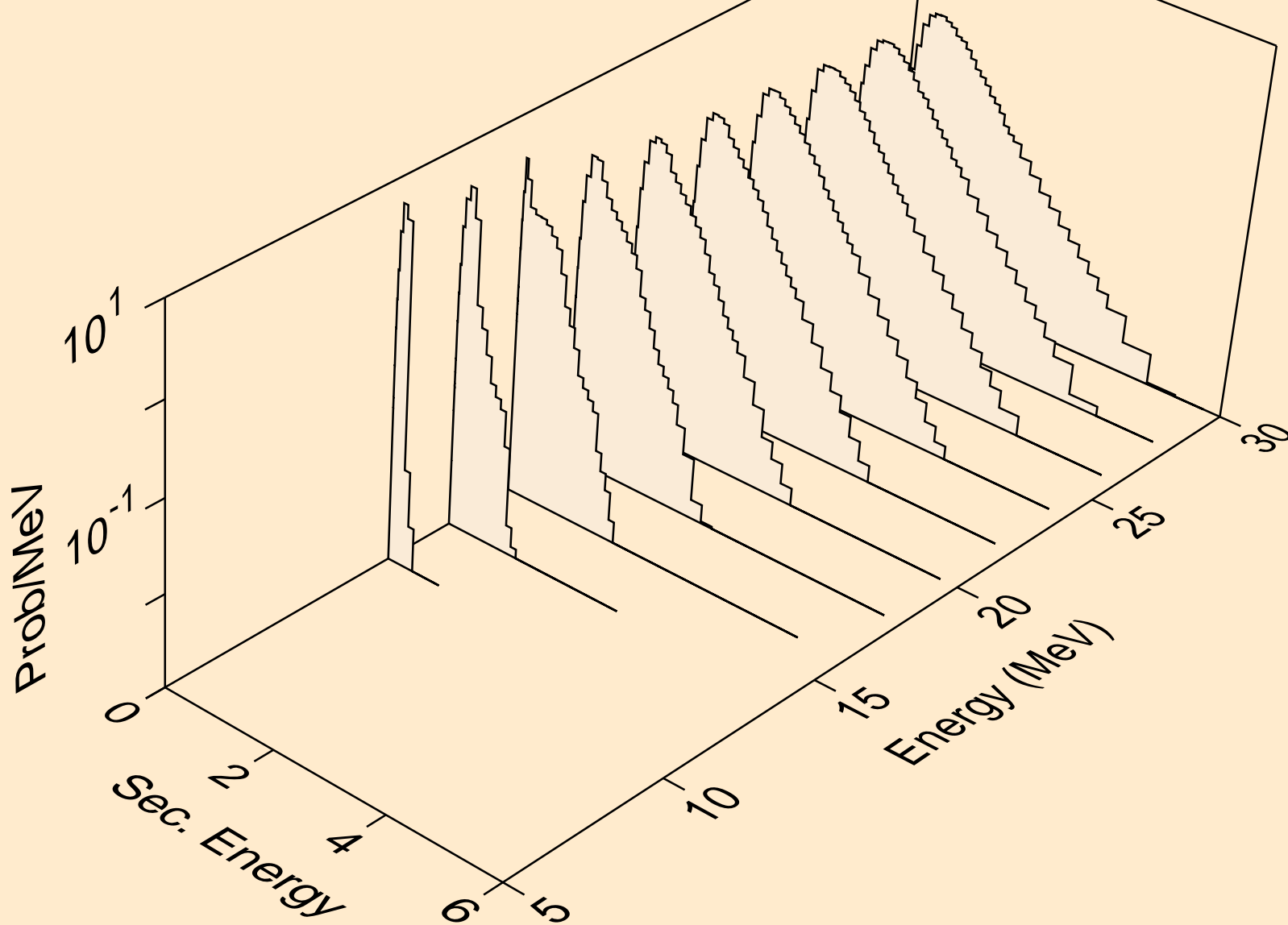
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,n\*)2a



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,2n)2a

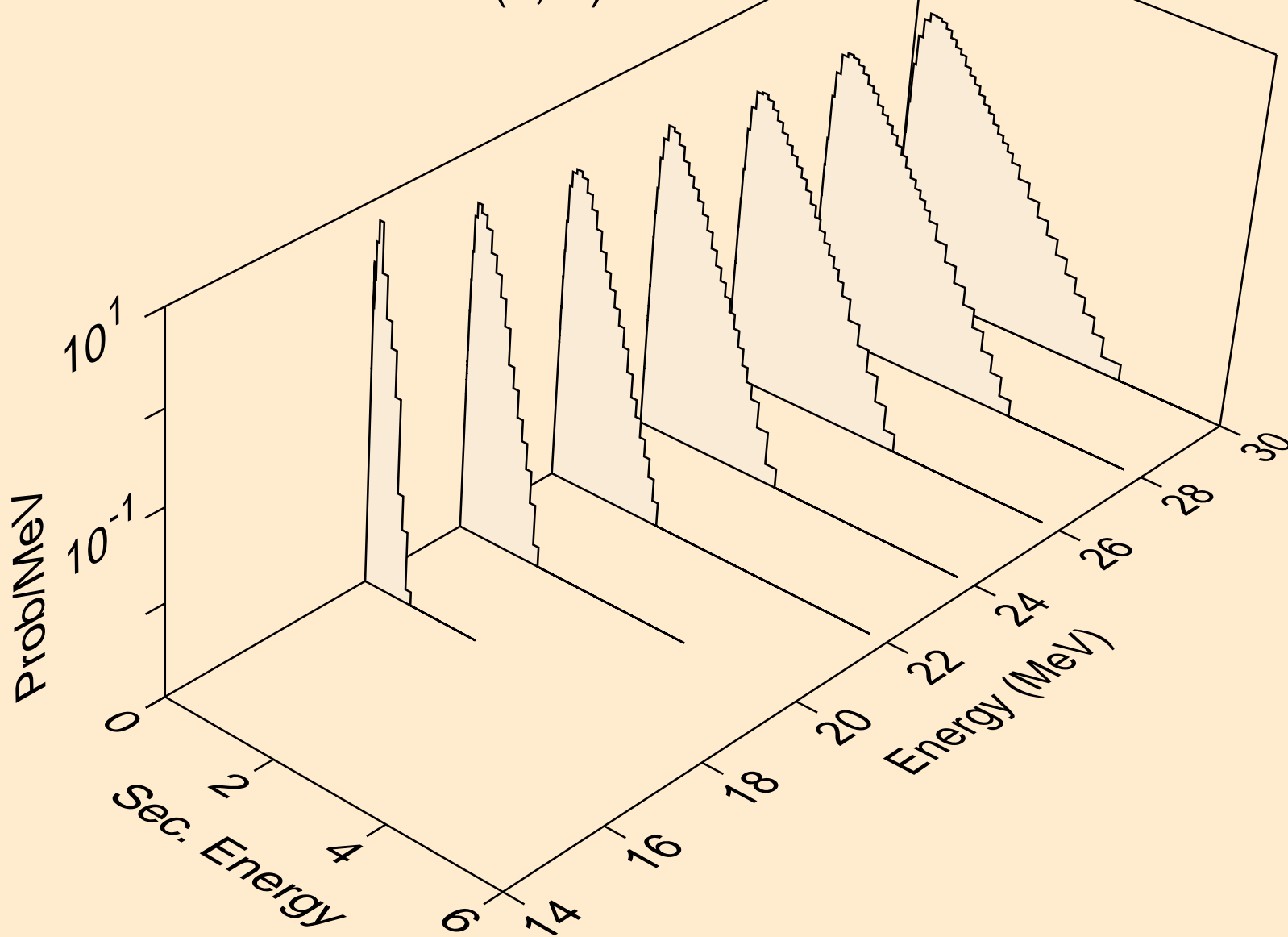


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,n\*)d

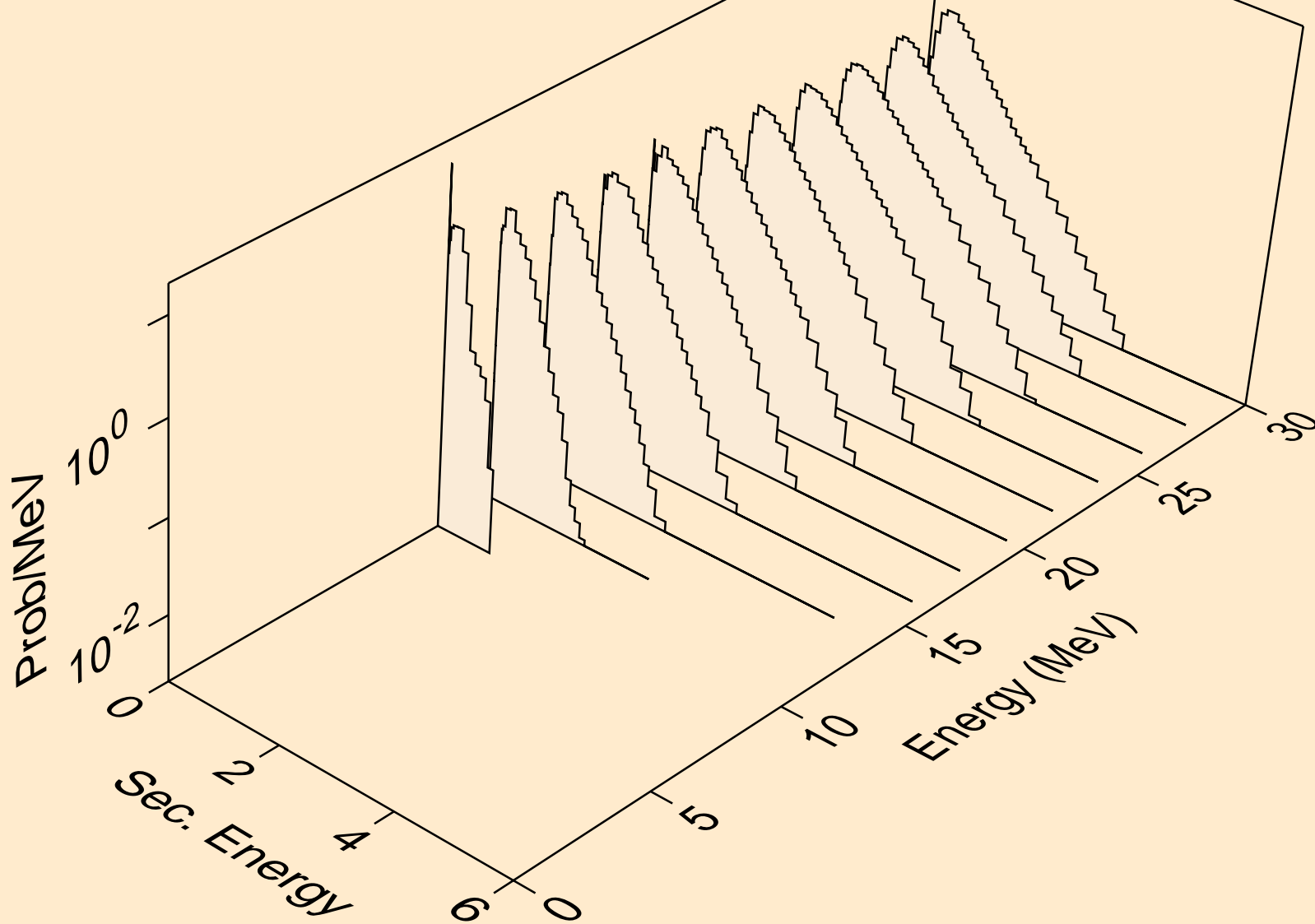




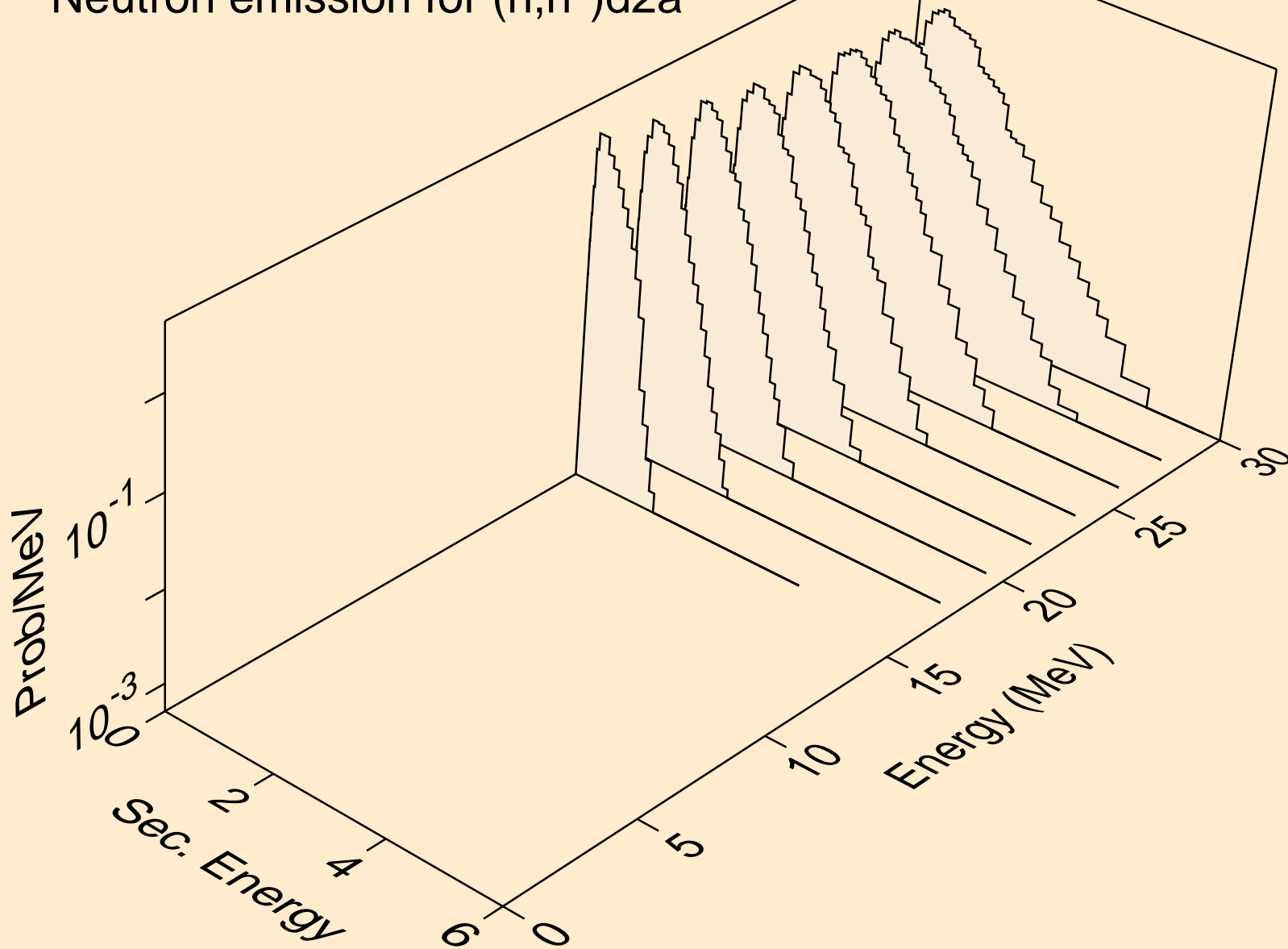
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Neutron emission for (n,n\*)t



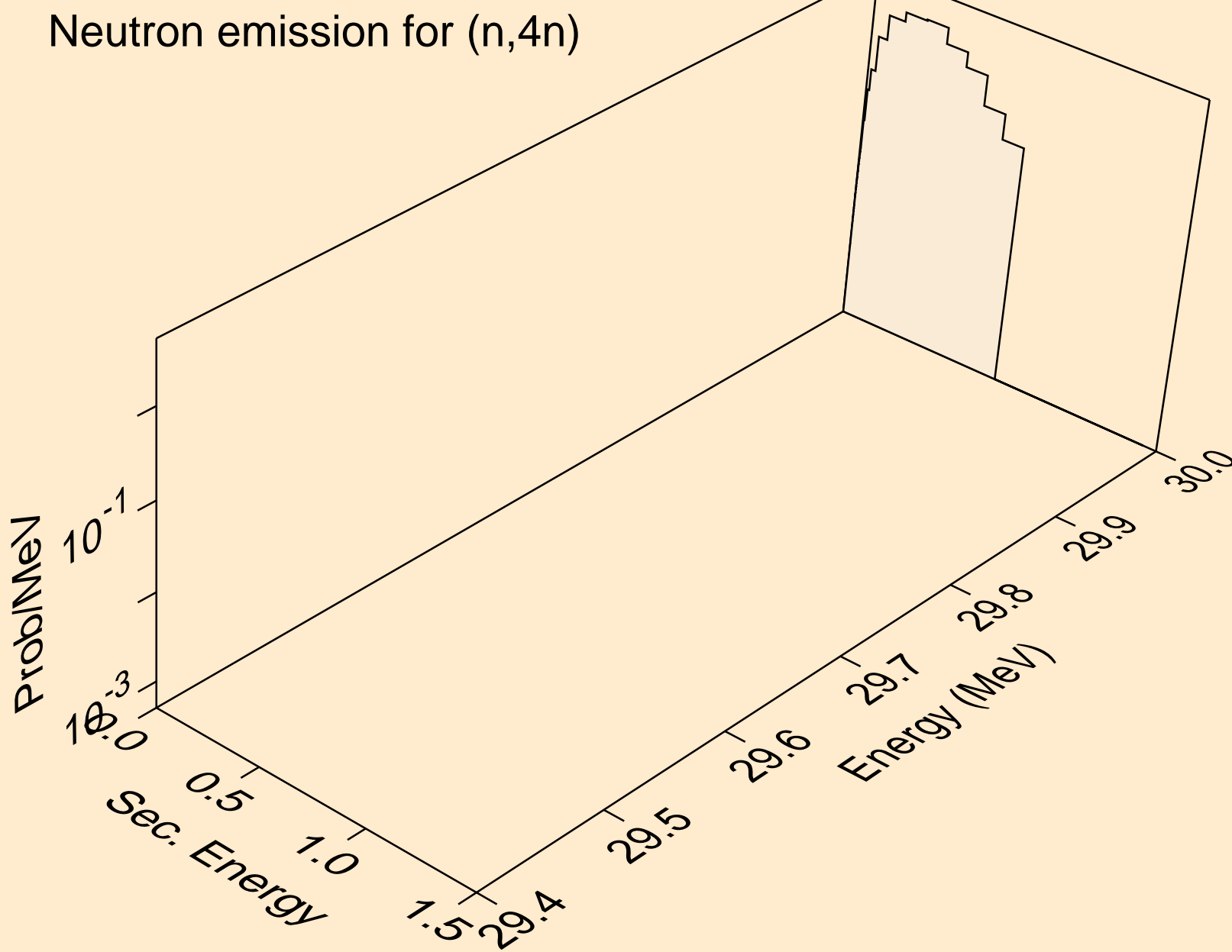
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,n\*)he3



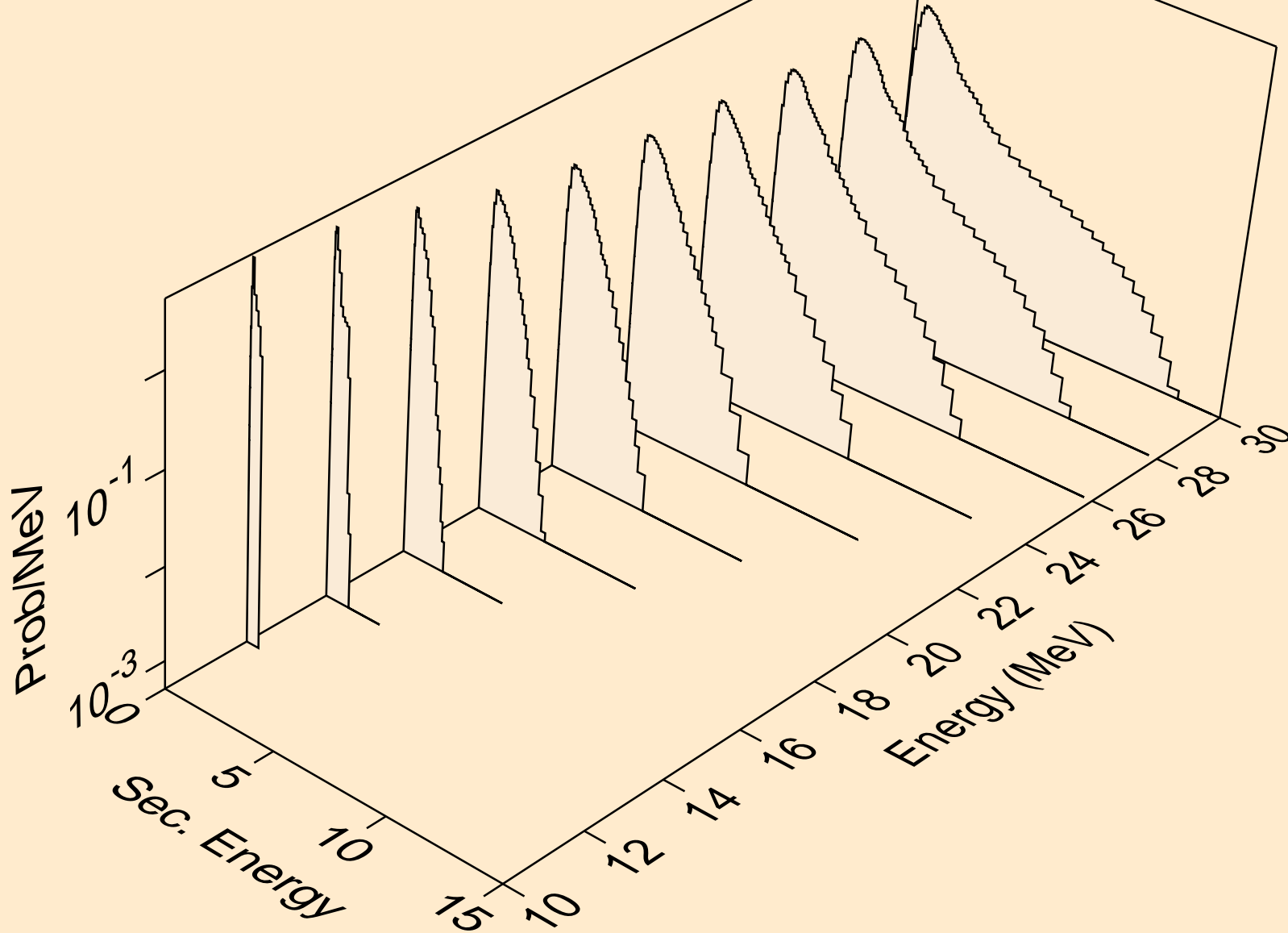
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,n\*)d2a



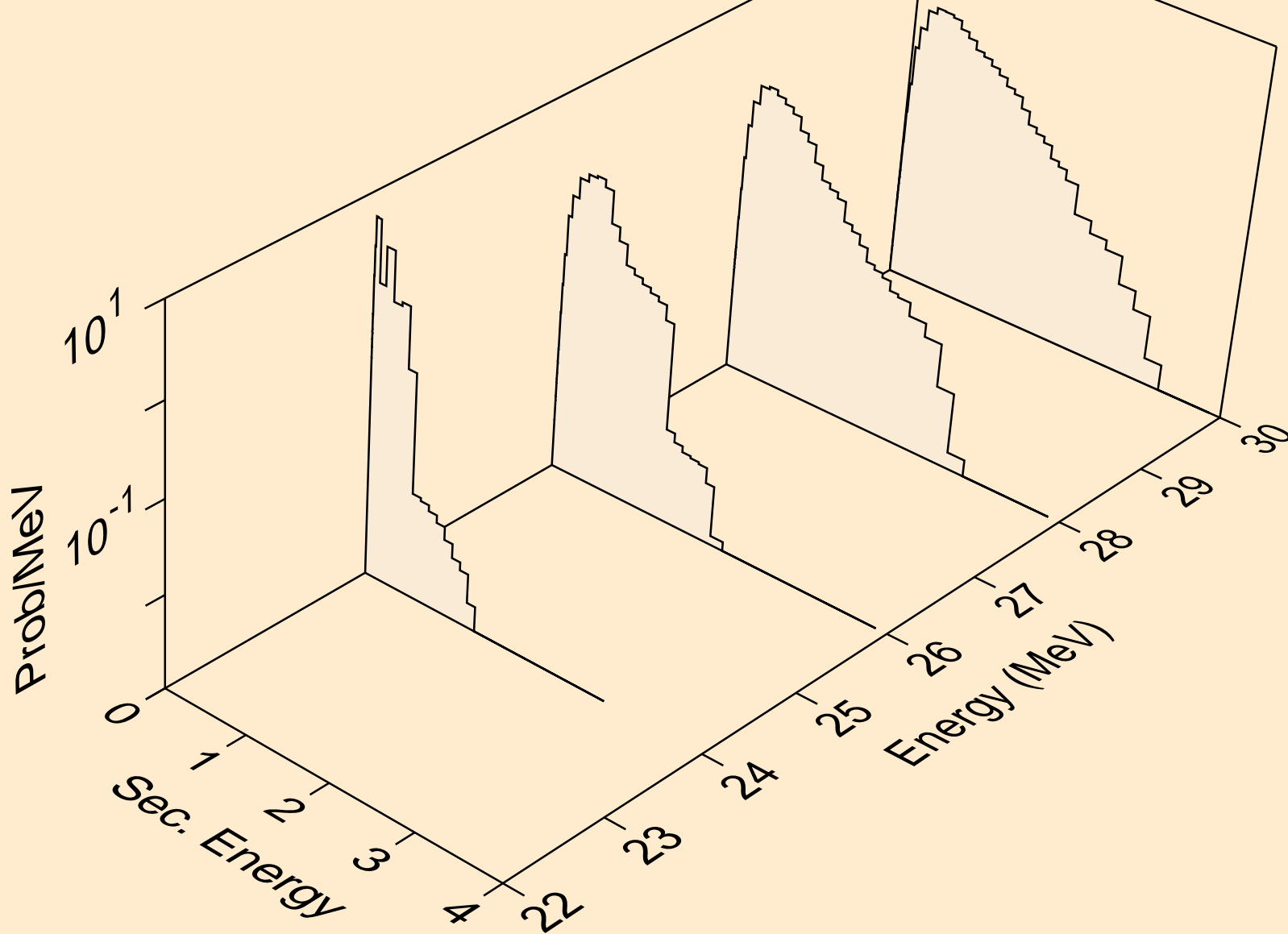
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,4n)



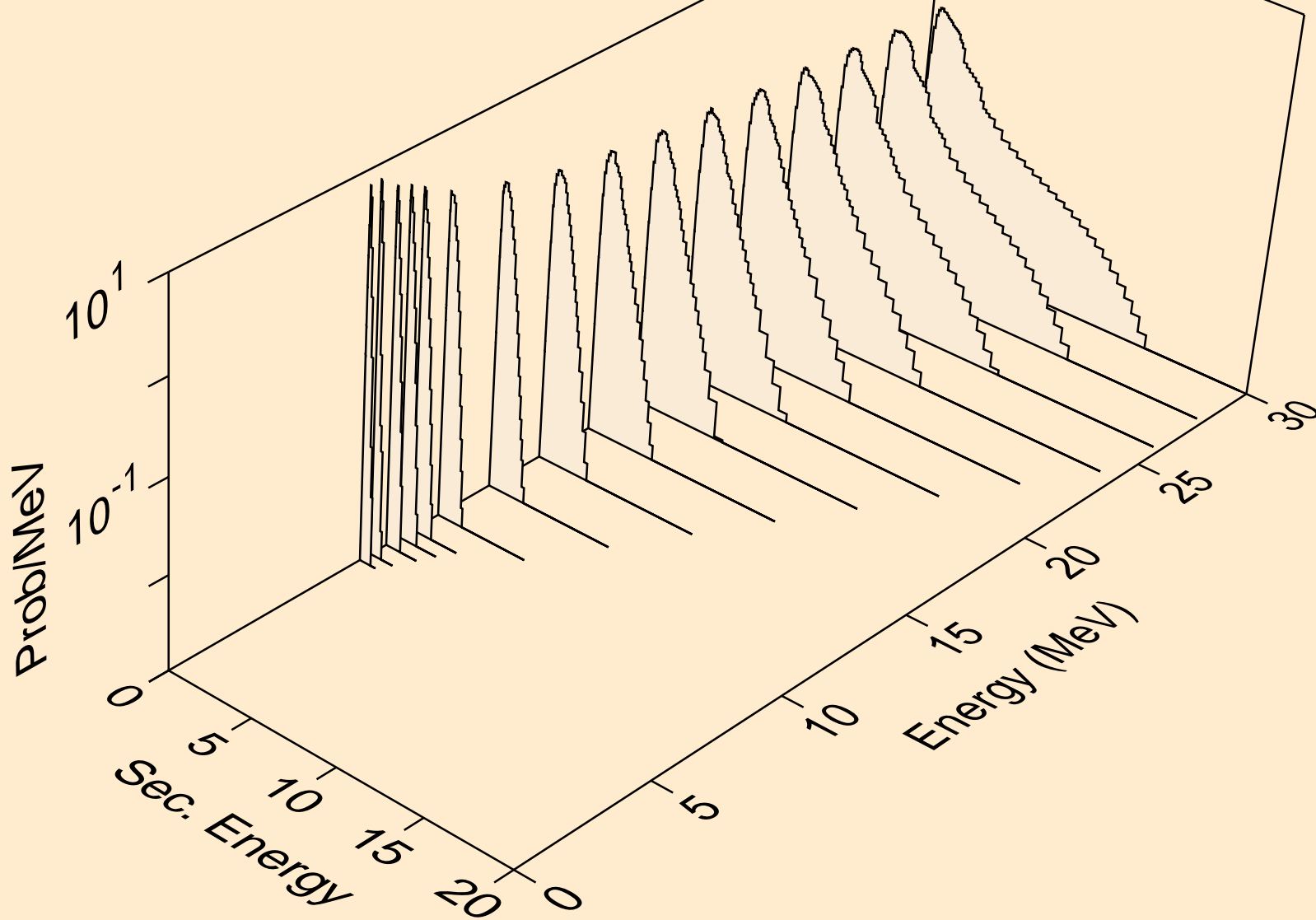
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,2np)



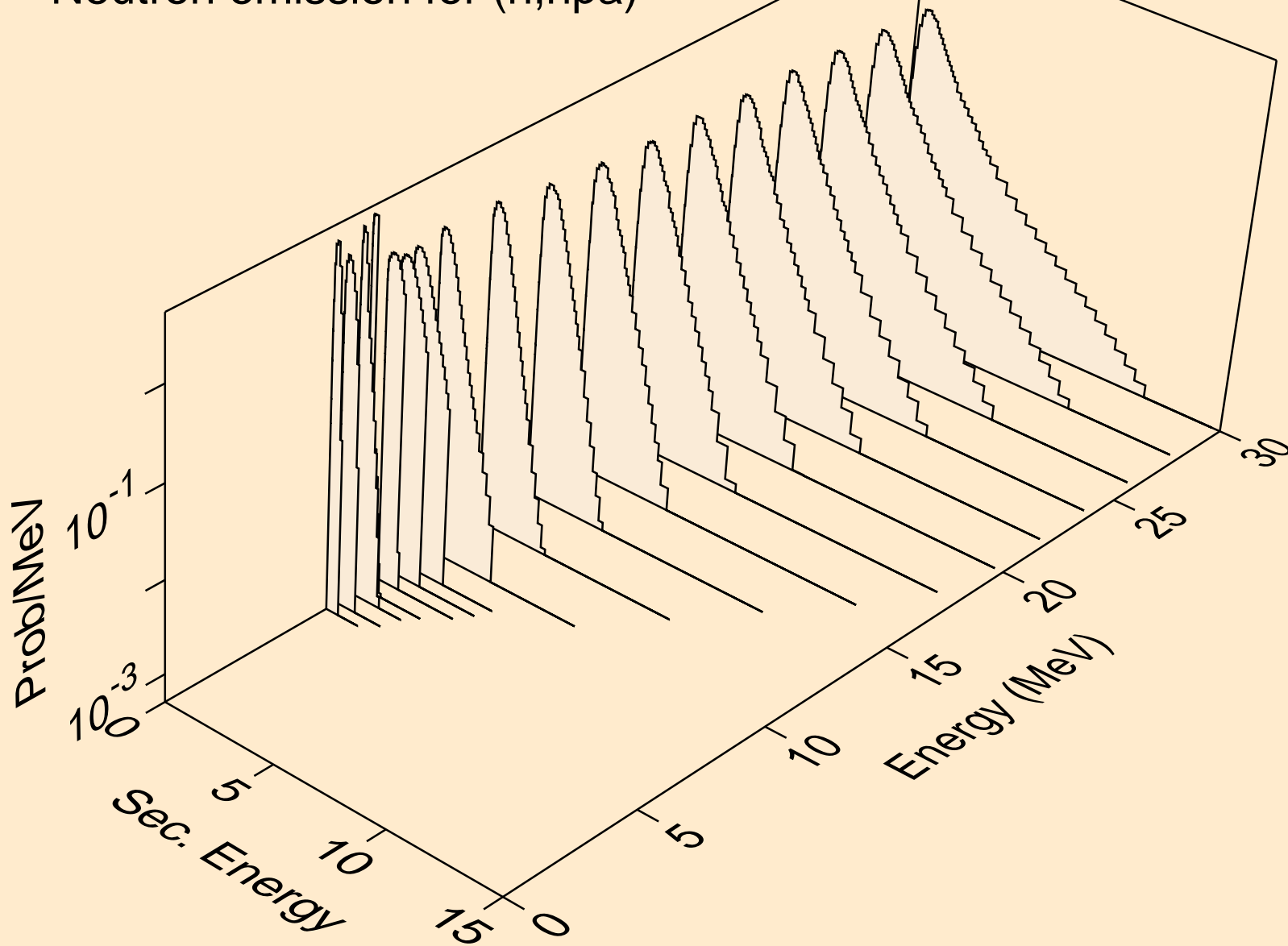
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,3np)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,2np)

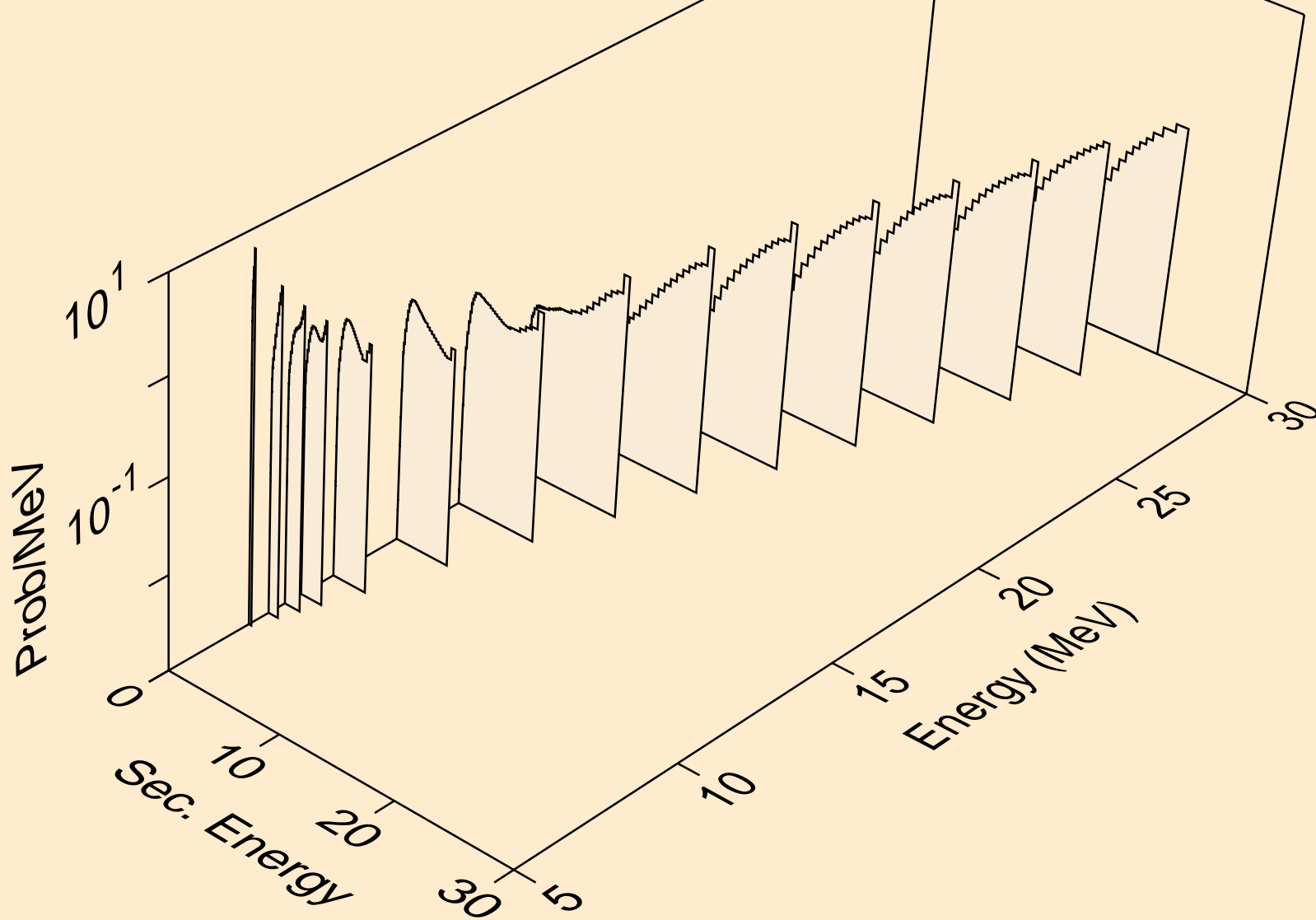


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Neutron emission for (n,npa)

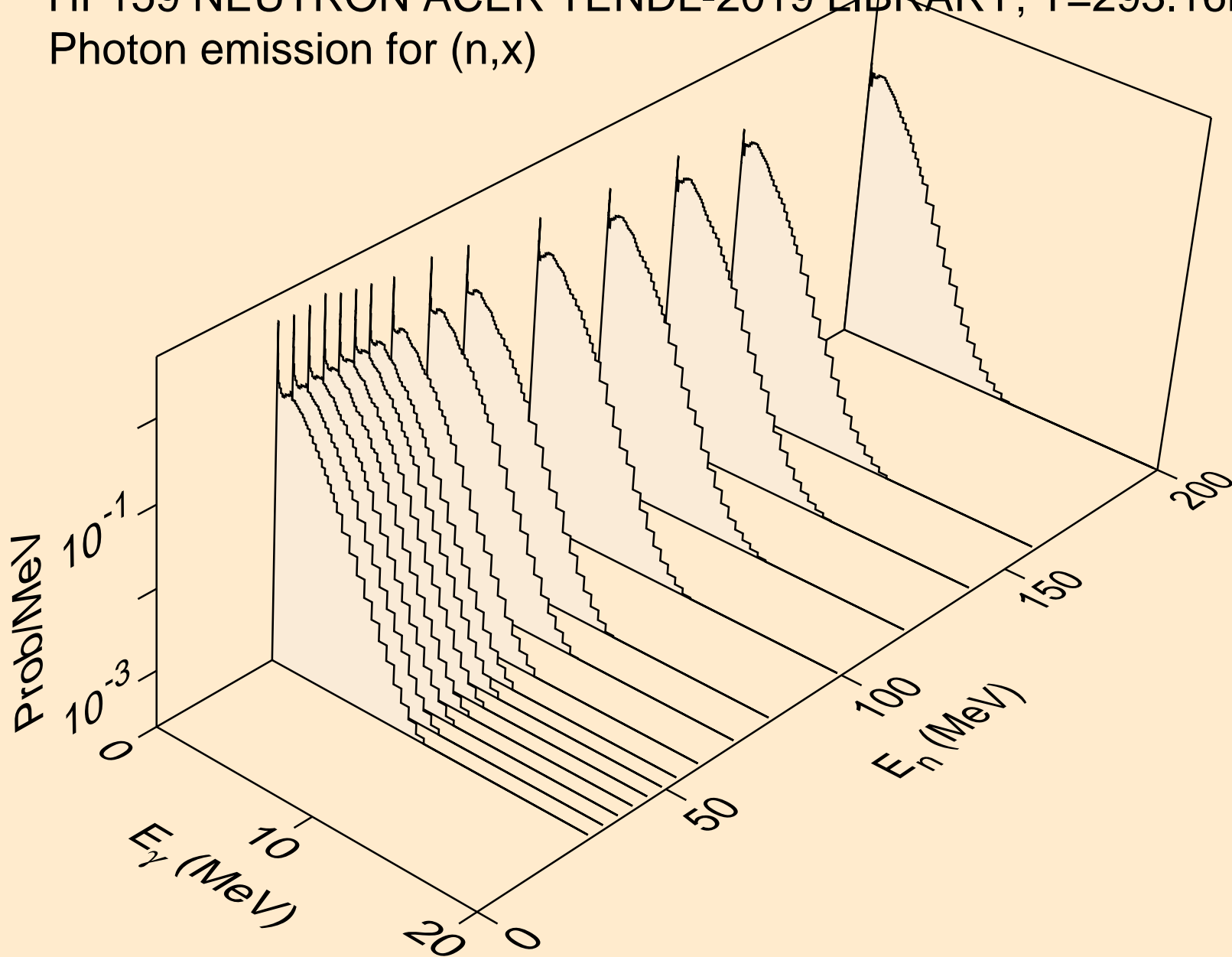




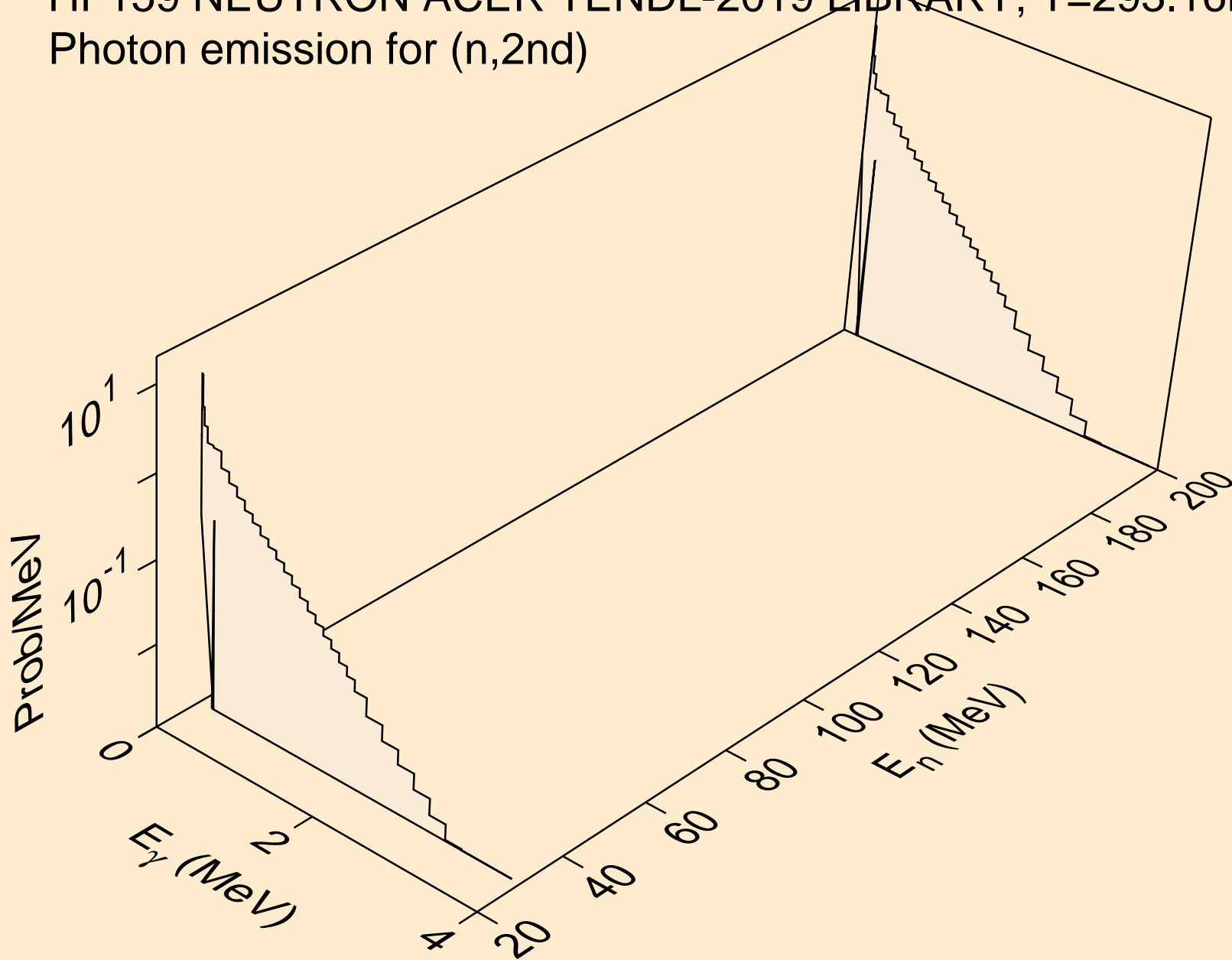
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Neutron emission for (n,n\*c)



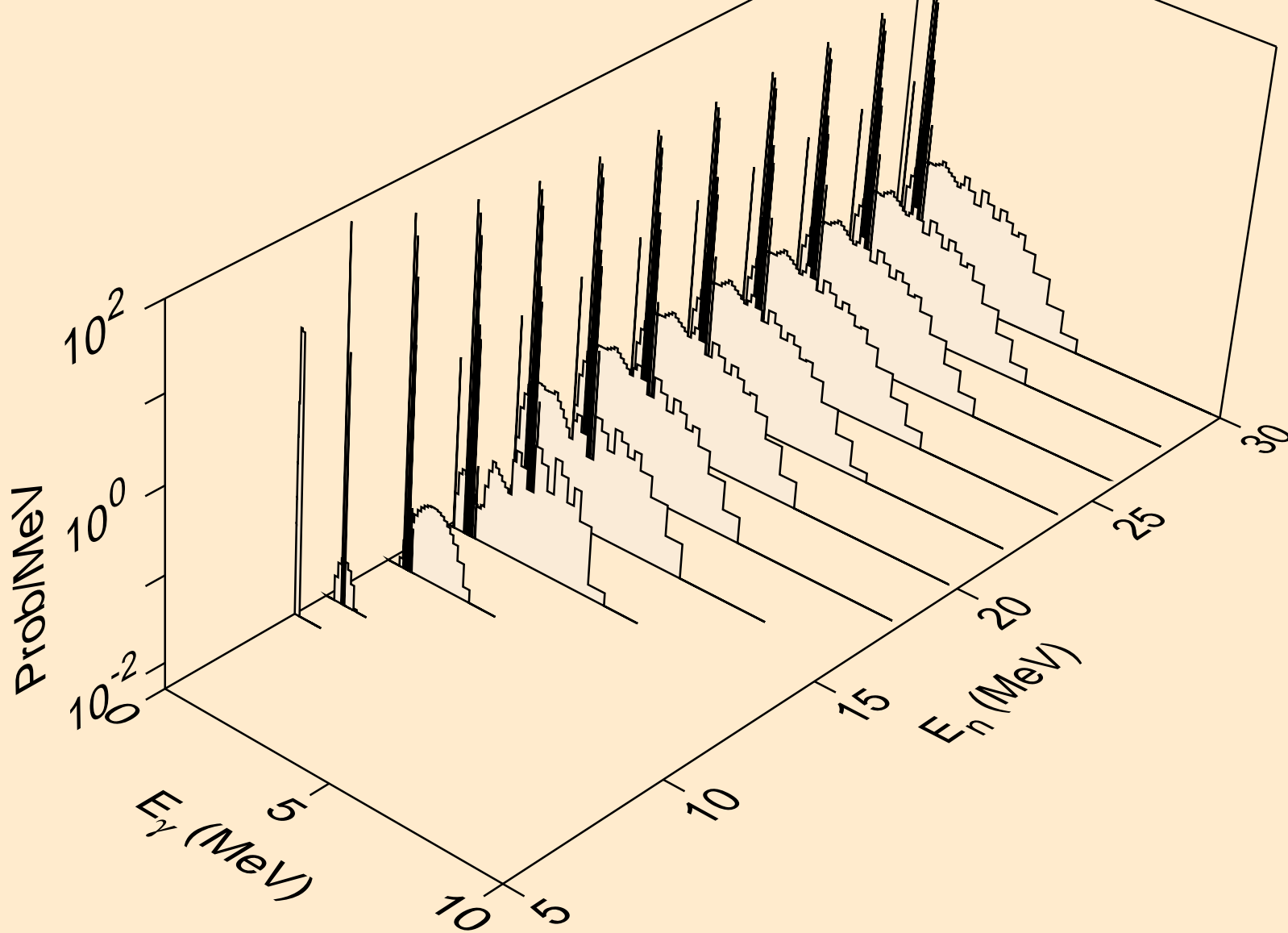
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Photon emission for (n,x)



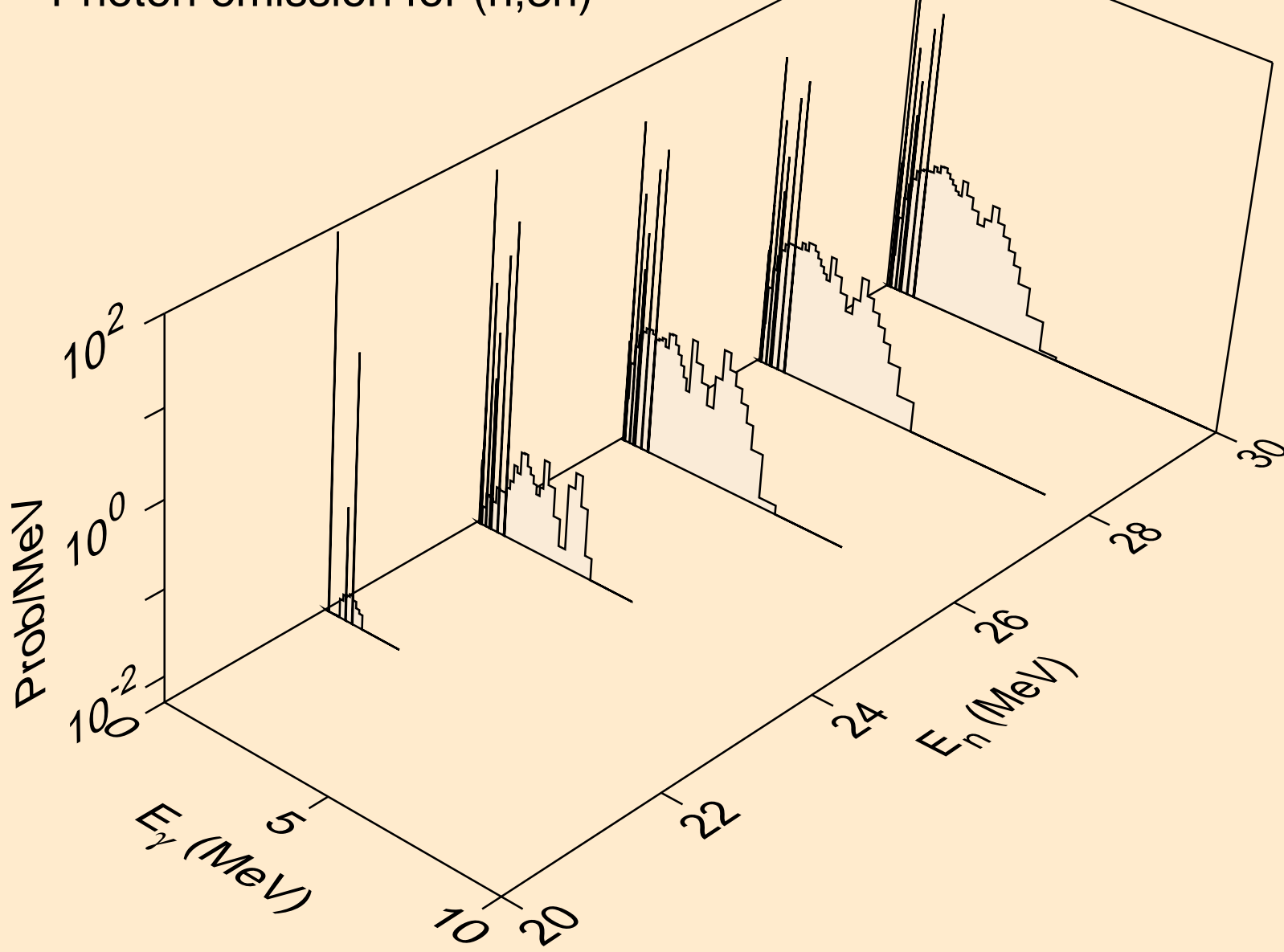
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,2nd)



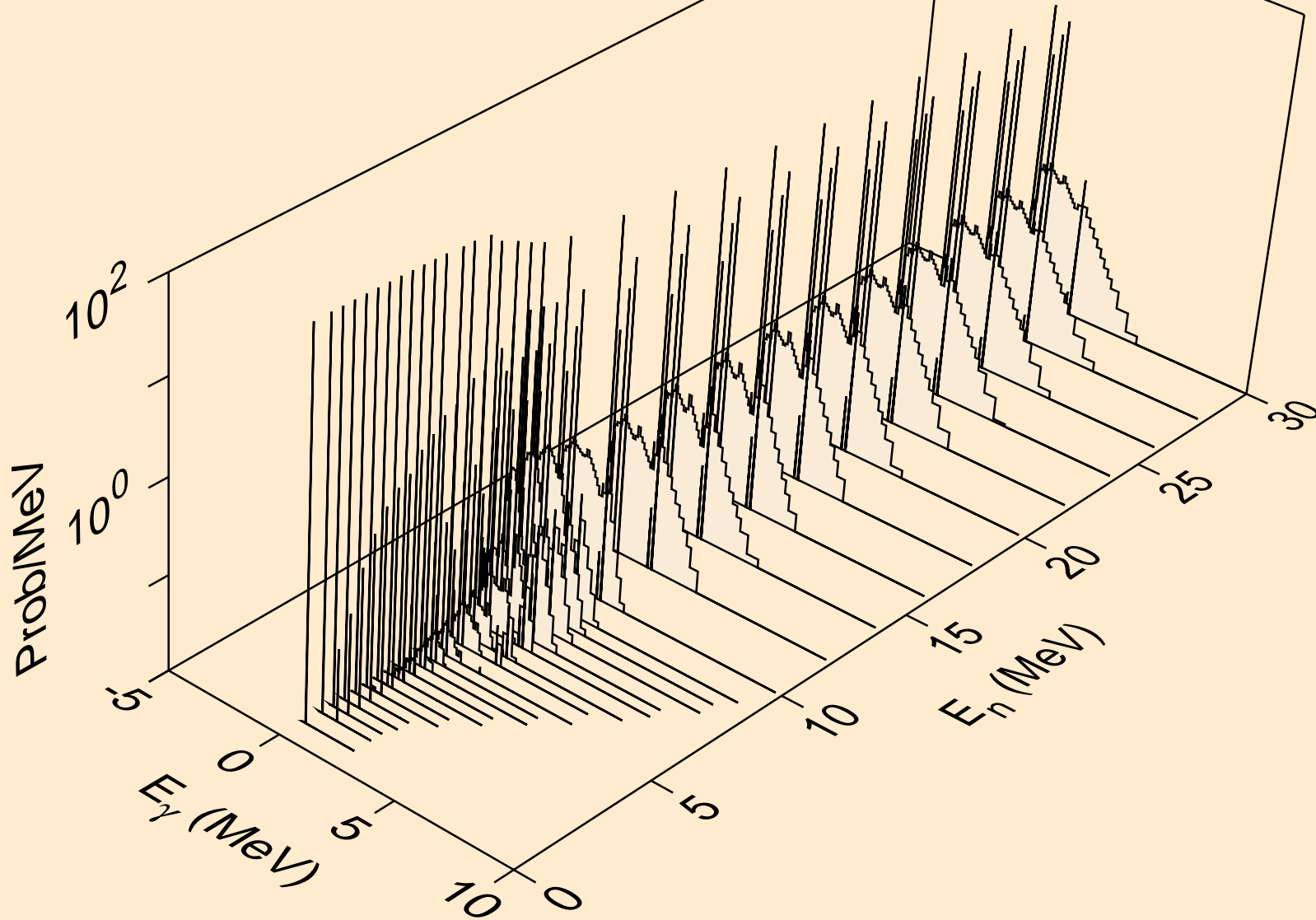
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Photon emission for (n,2n)



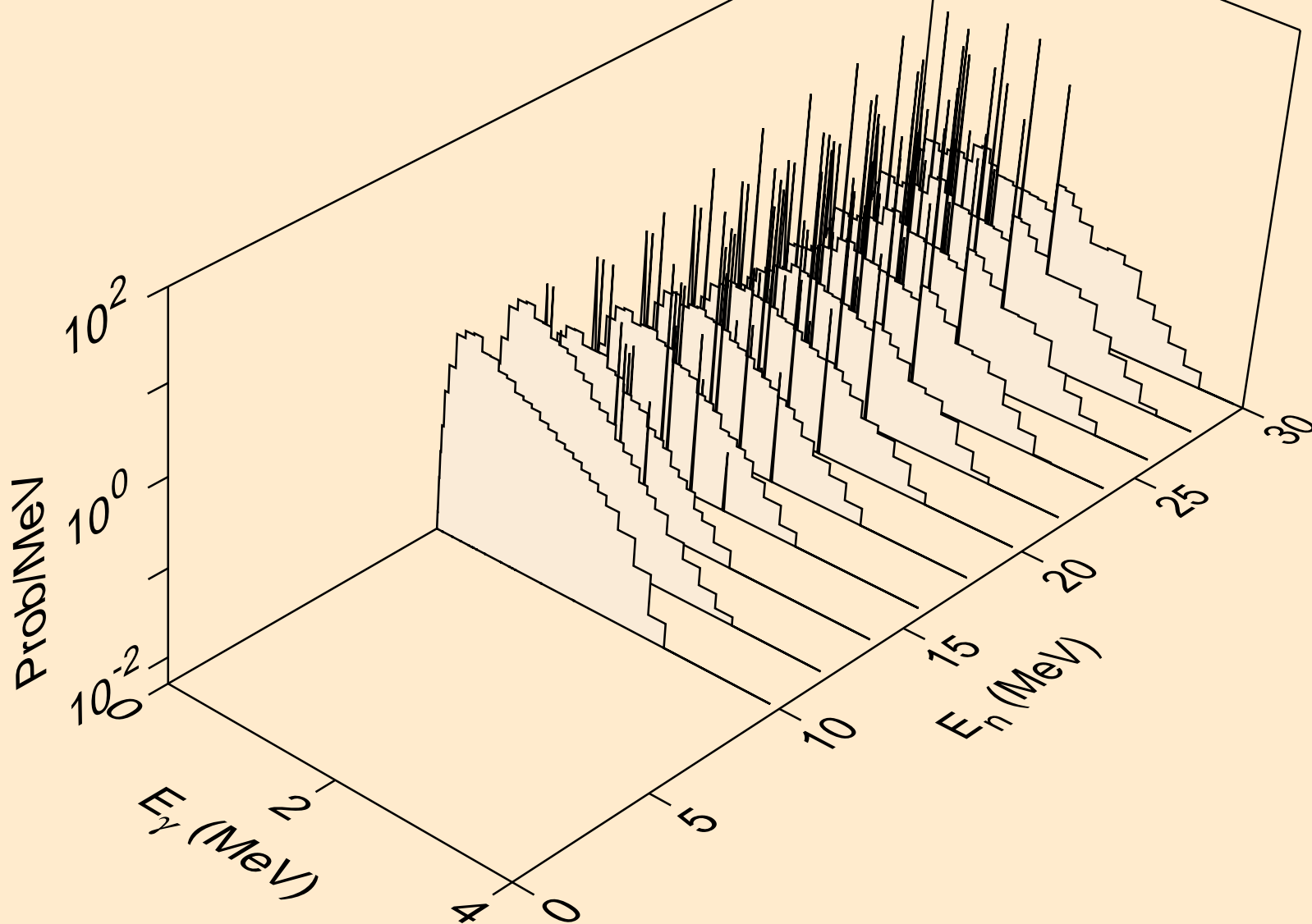
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Photon emission for (n,3n)



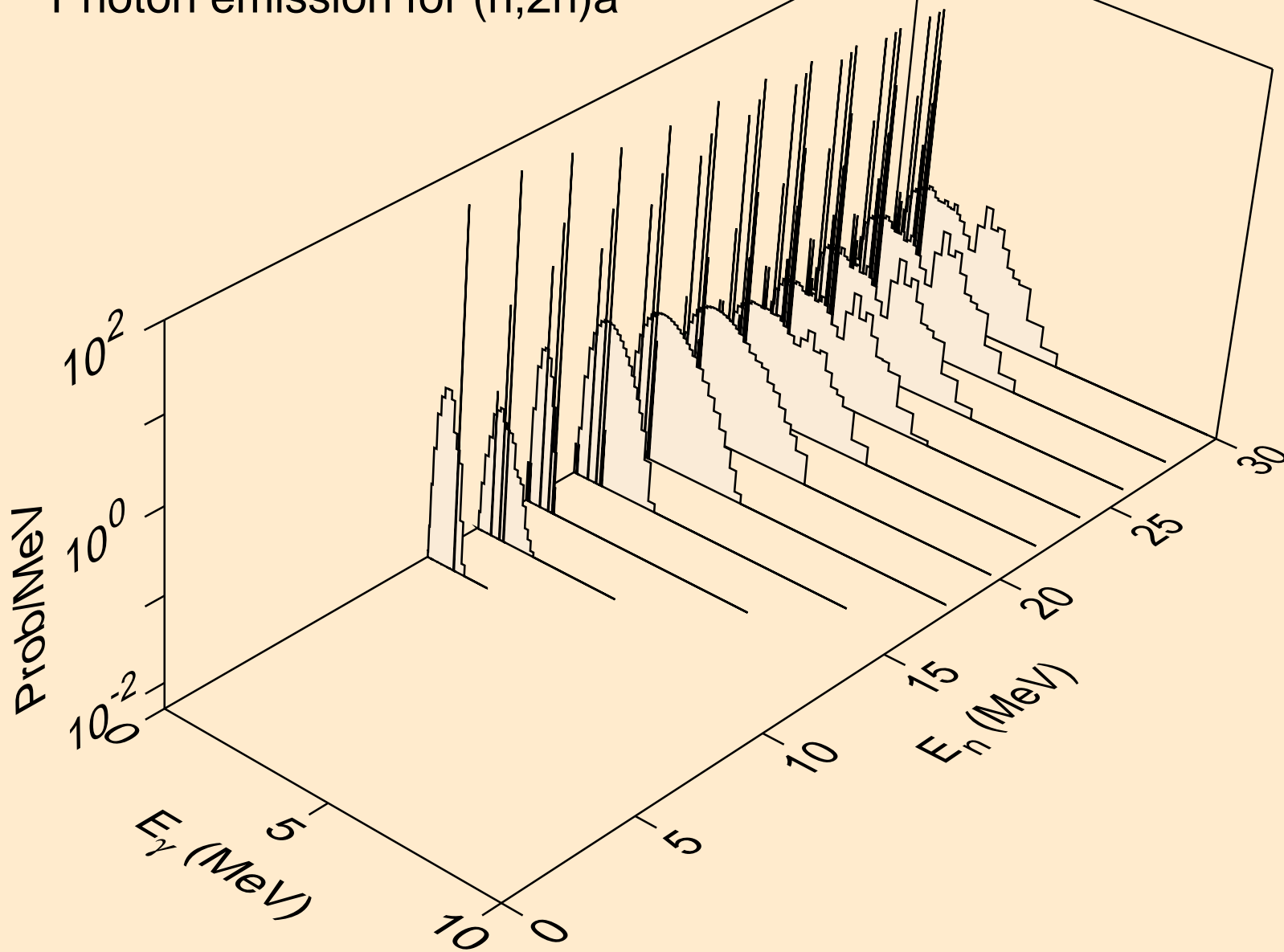
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*)a



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*)3a

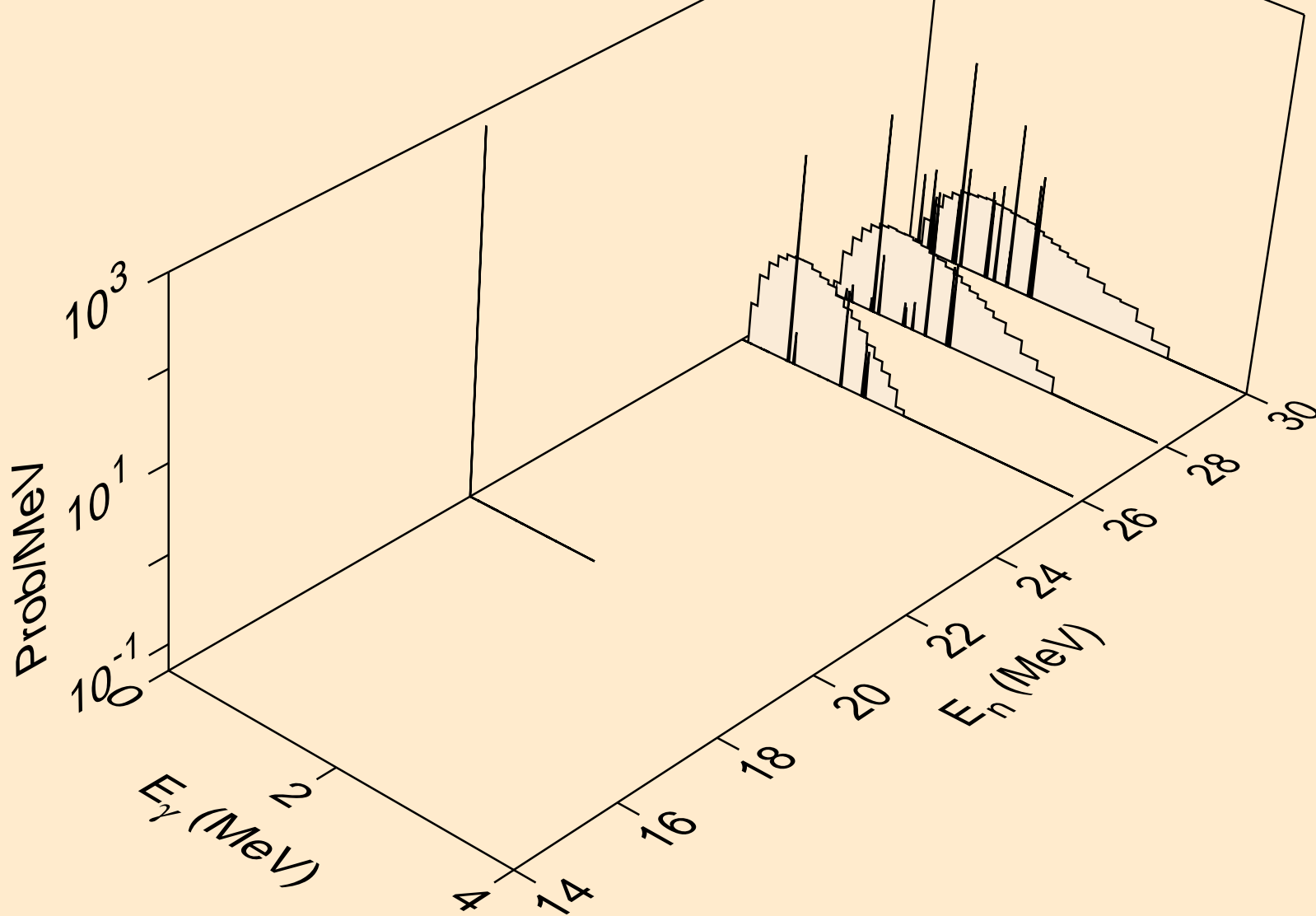


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,2n)a

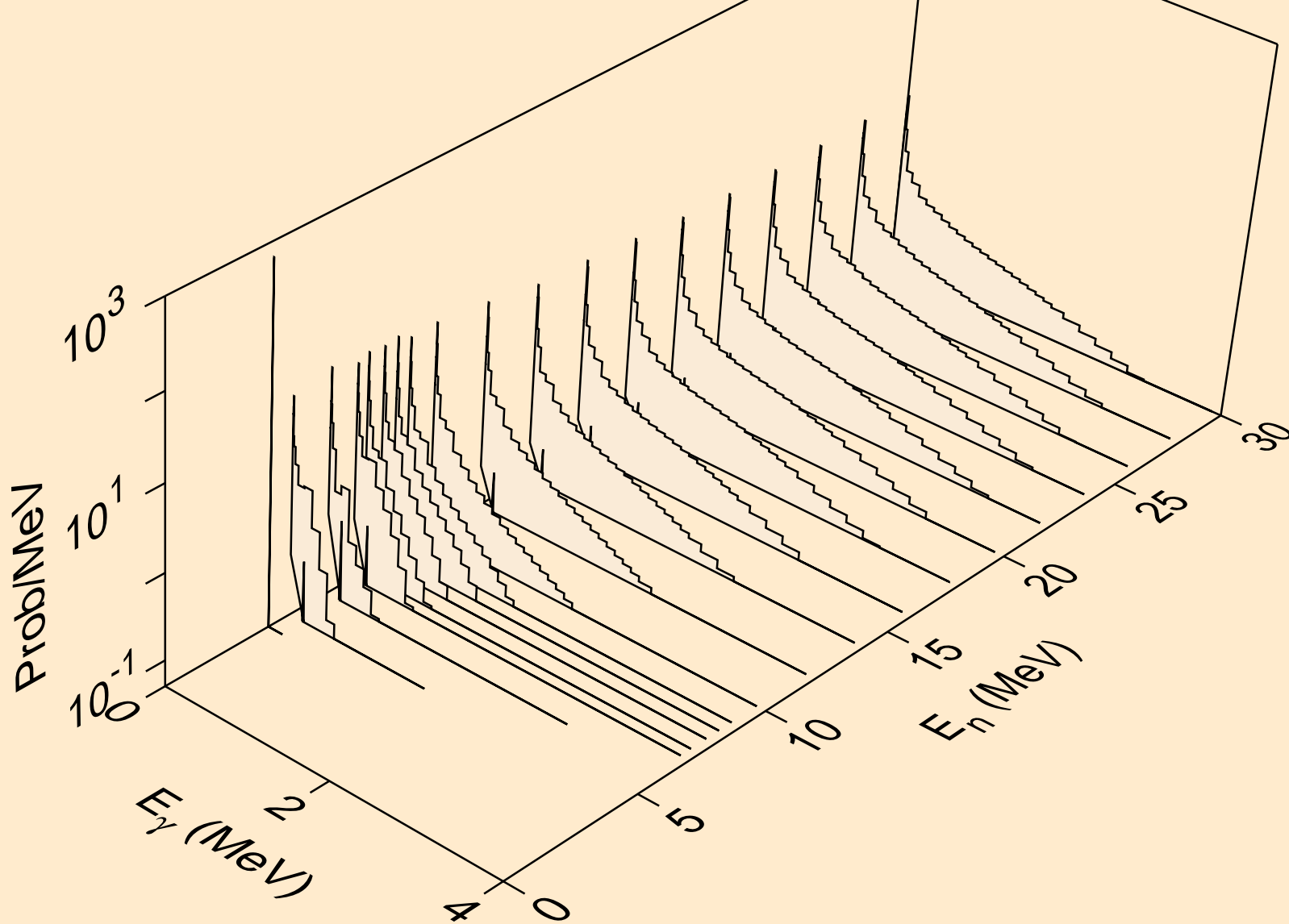




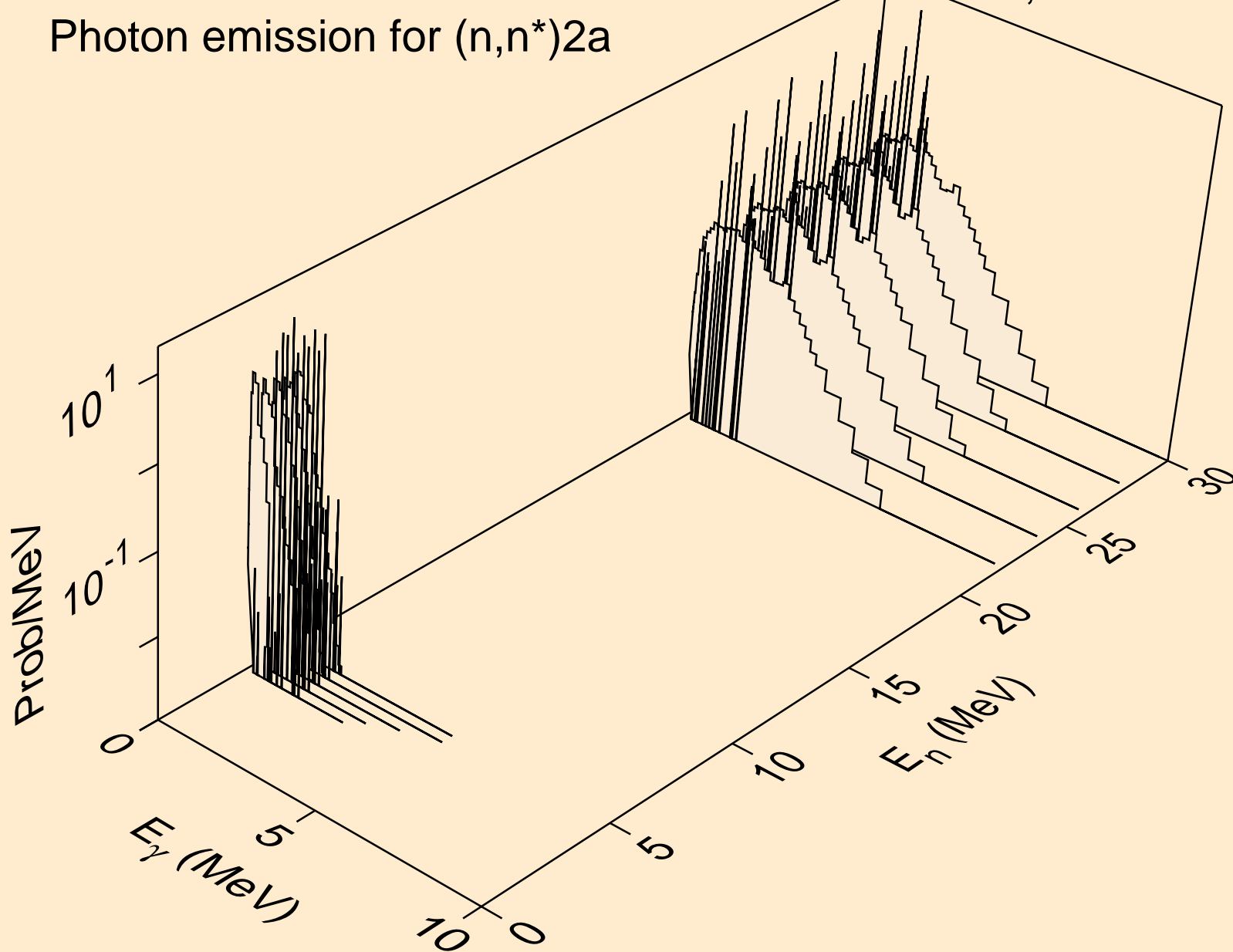
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Photon emission for (n,3n)a



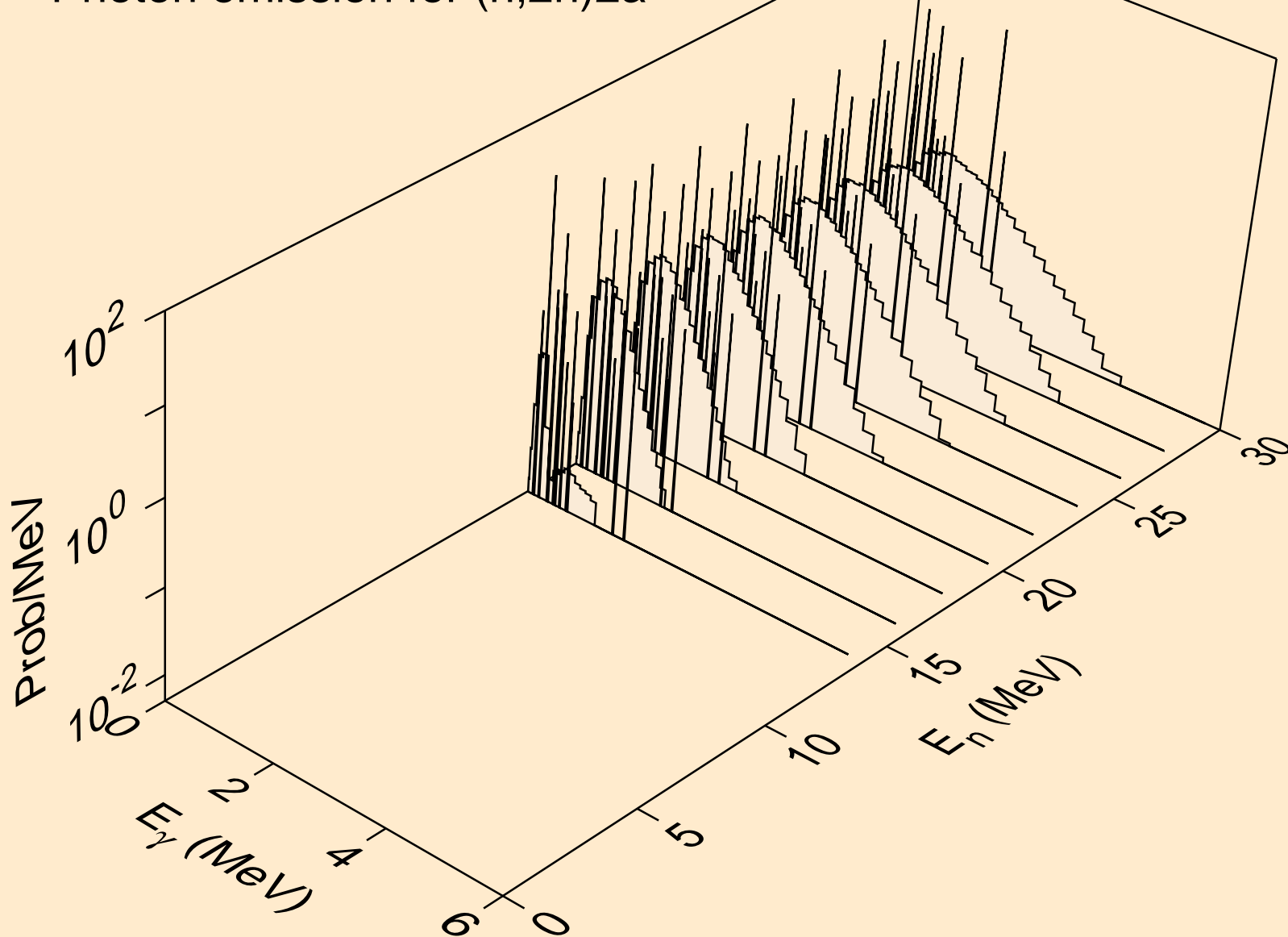
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Photon emission for (n,n\*)p



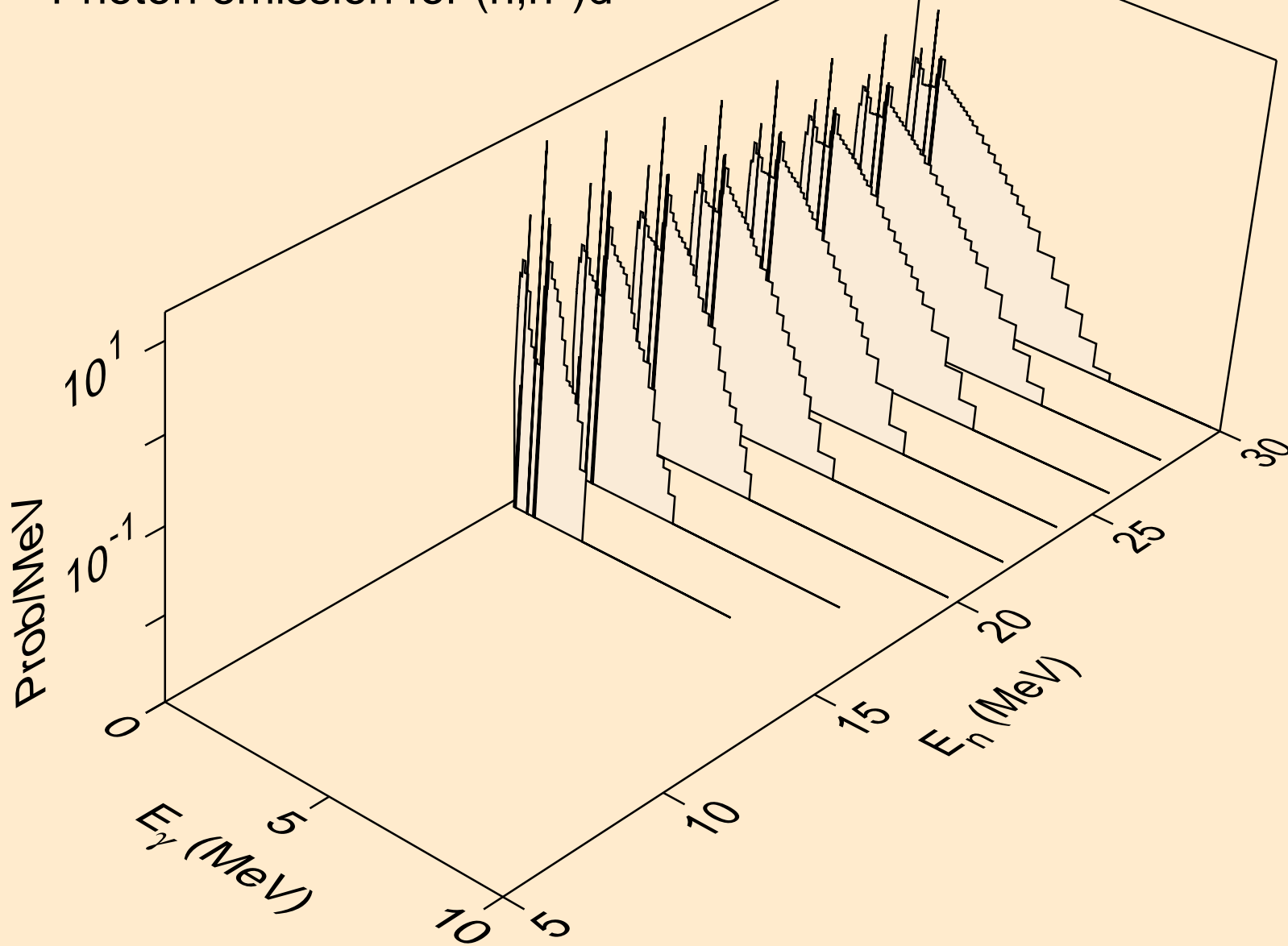
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Photon emission for (n,n\*)2a



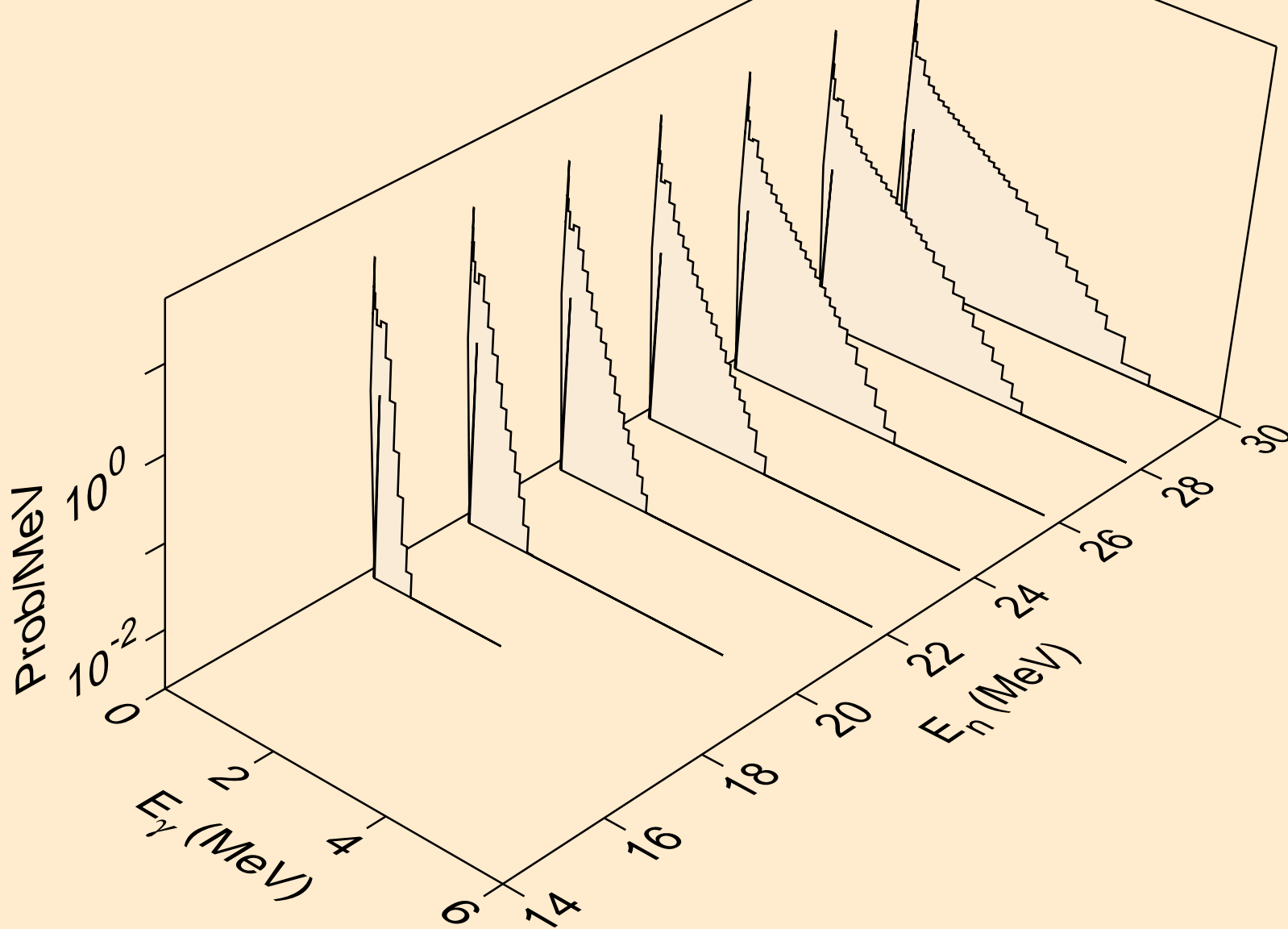
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Photon emission for (n,2n)2a



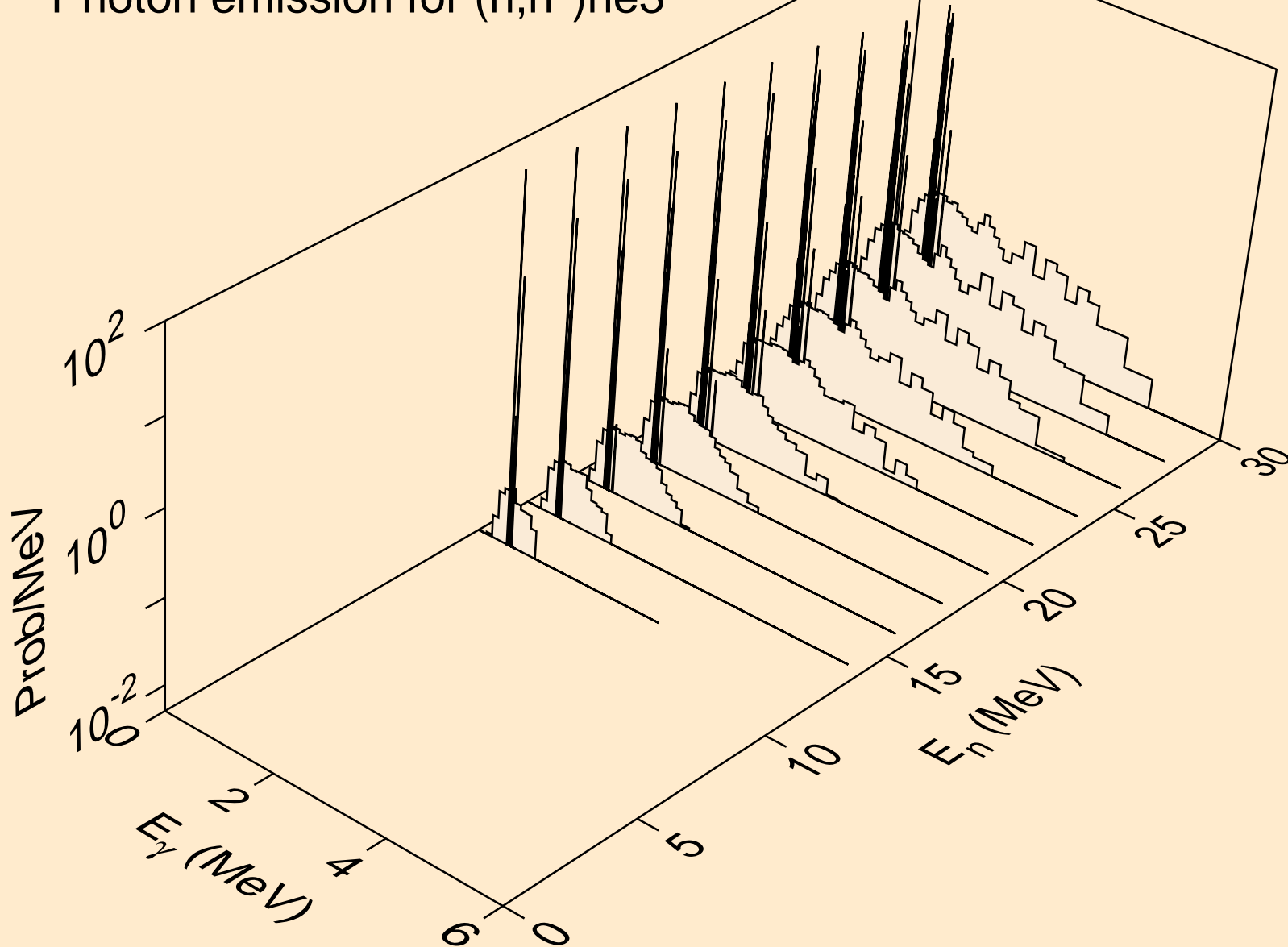
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Photon emission for (n,n\*)d



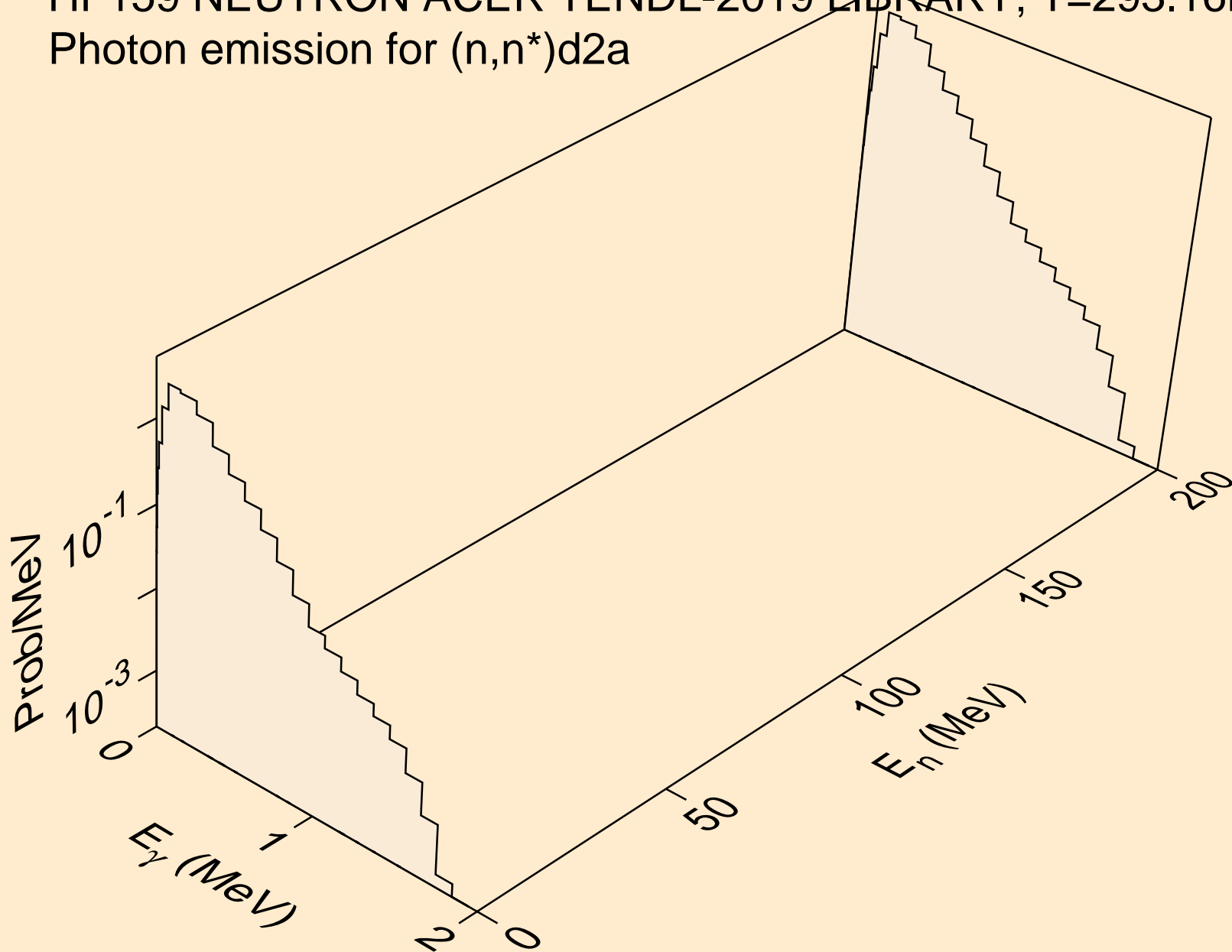
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*)t



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*)he3

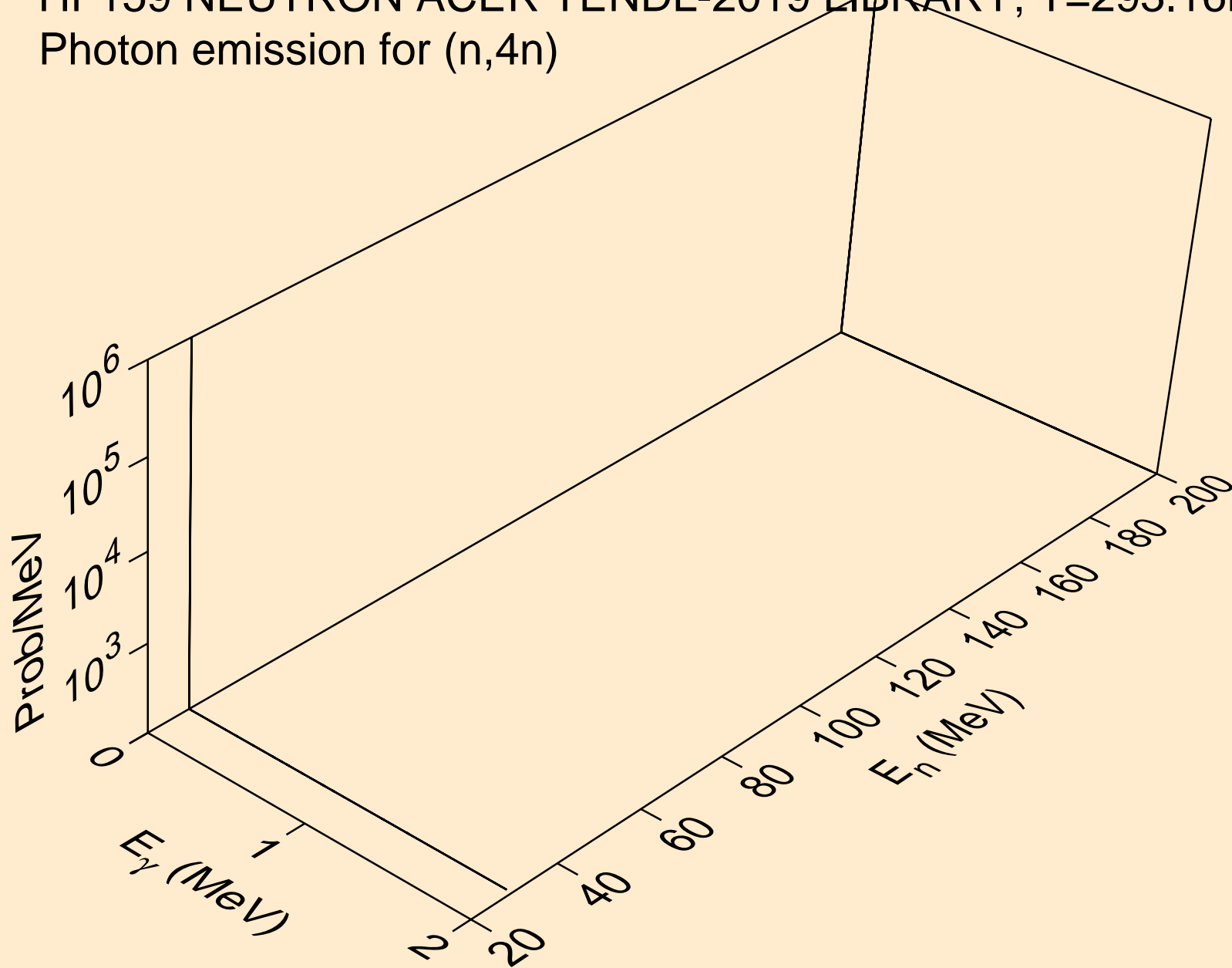


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*)d2a

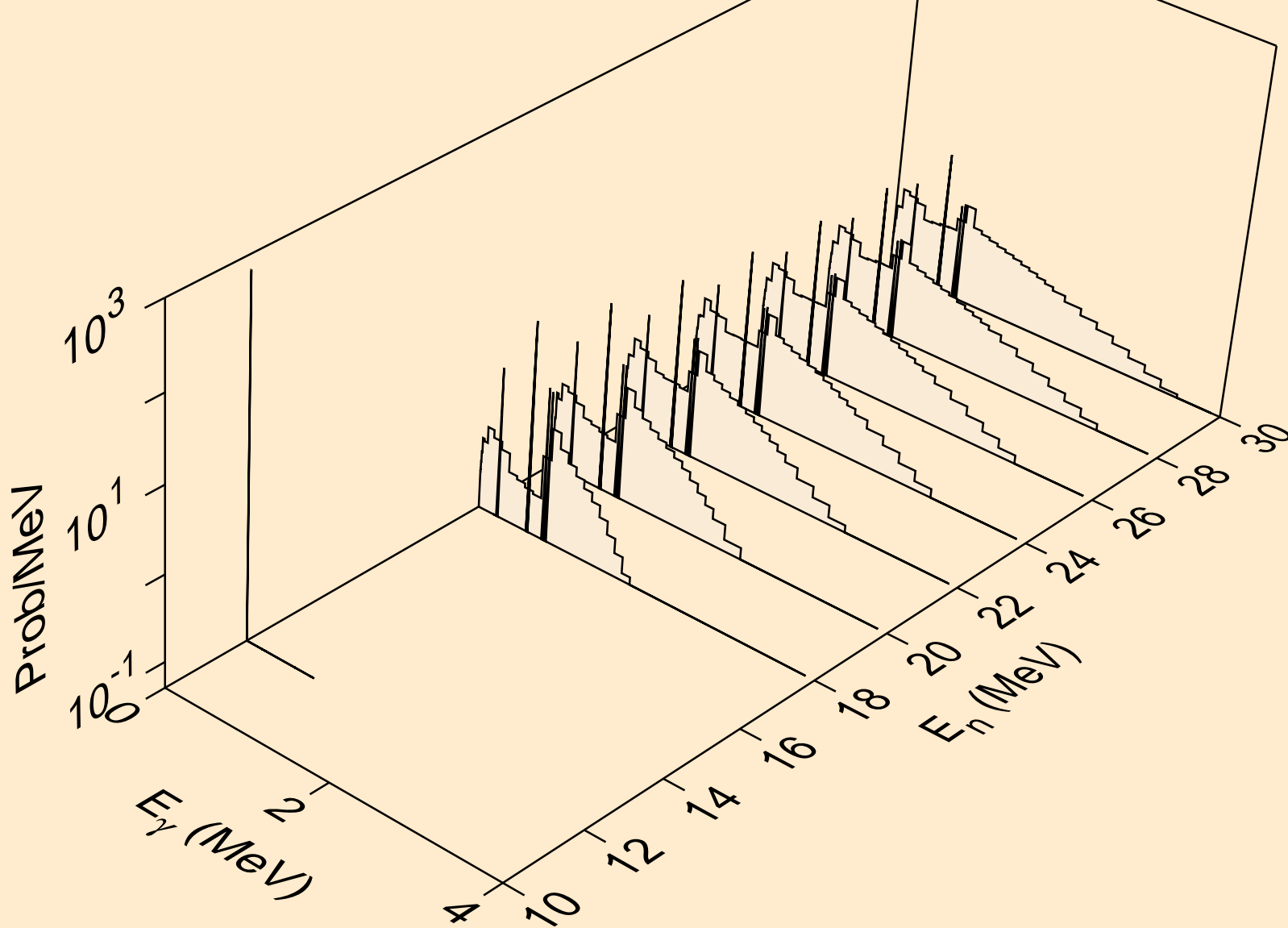




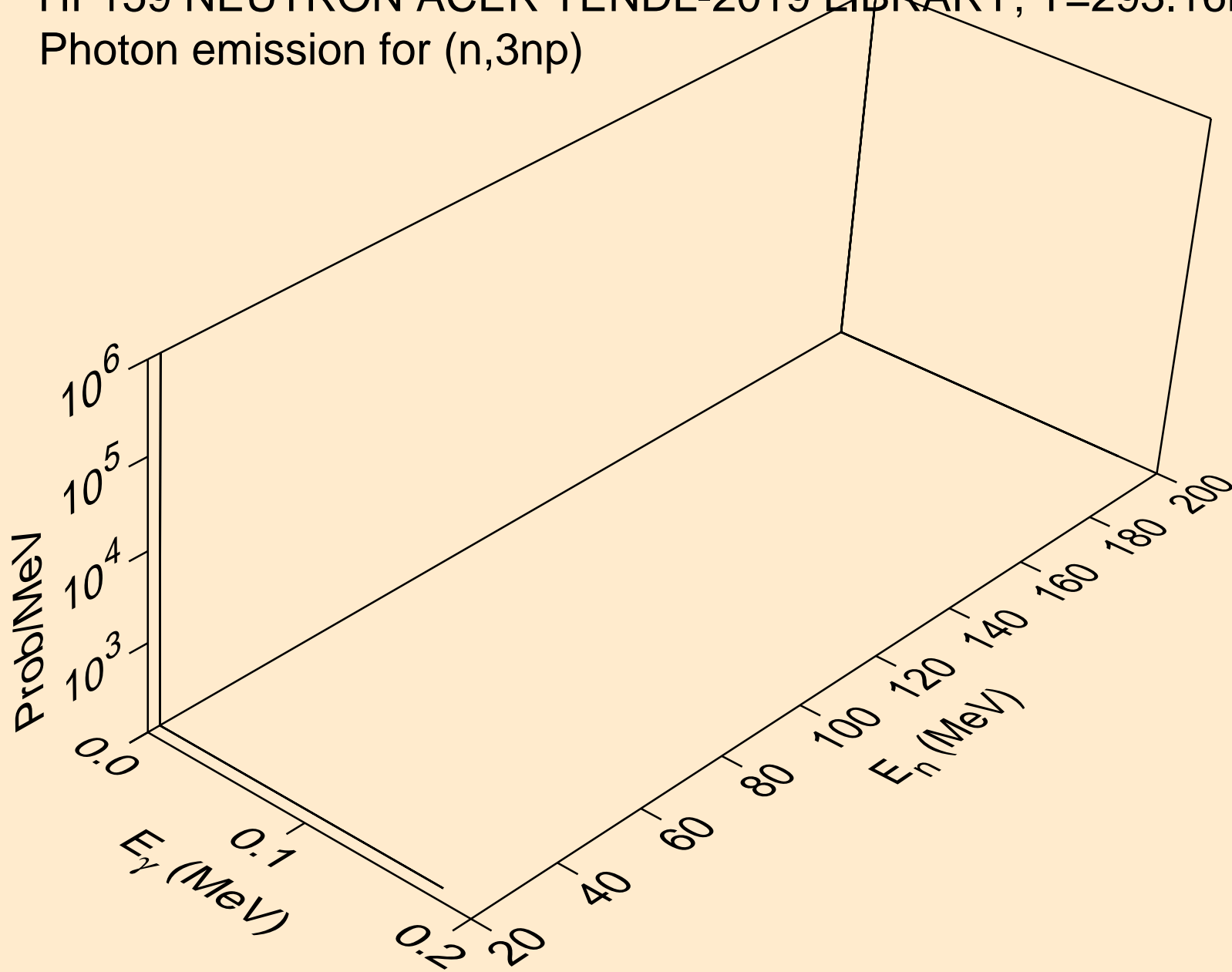
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Photon emission for (n,4n)



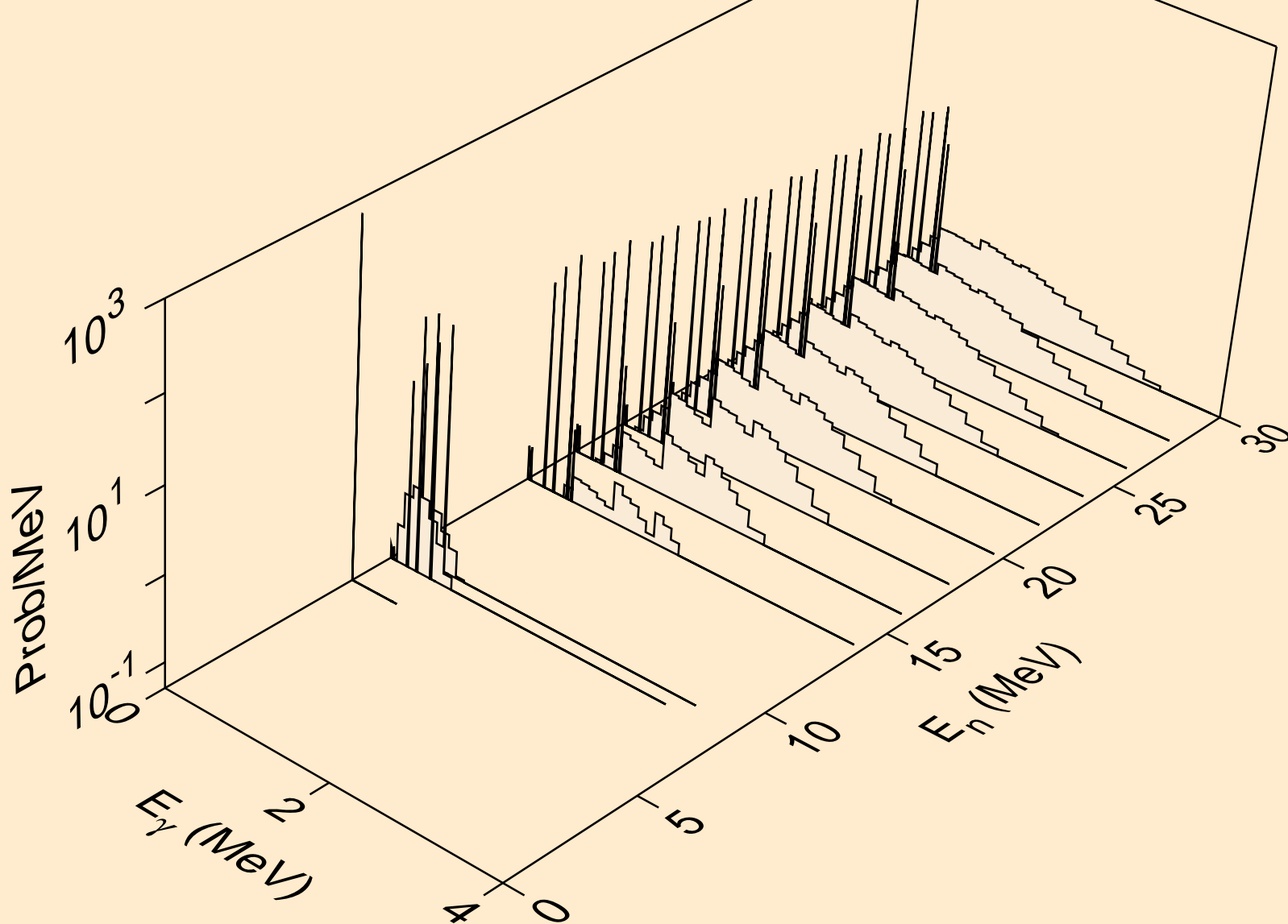
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Photon emission for (n,2np)



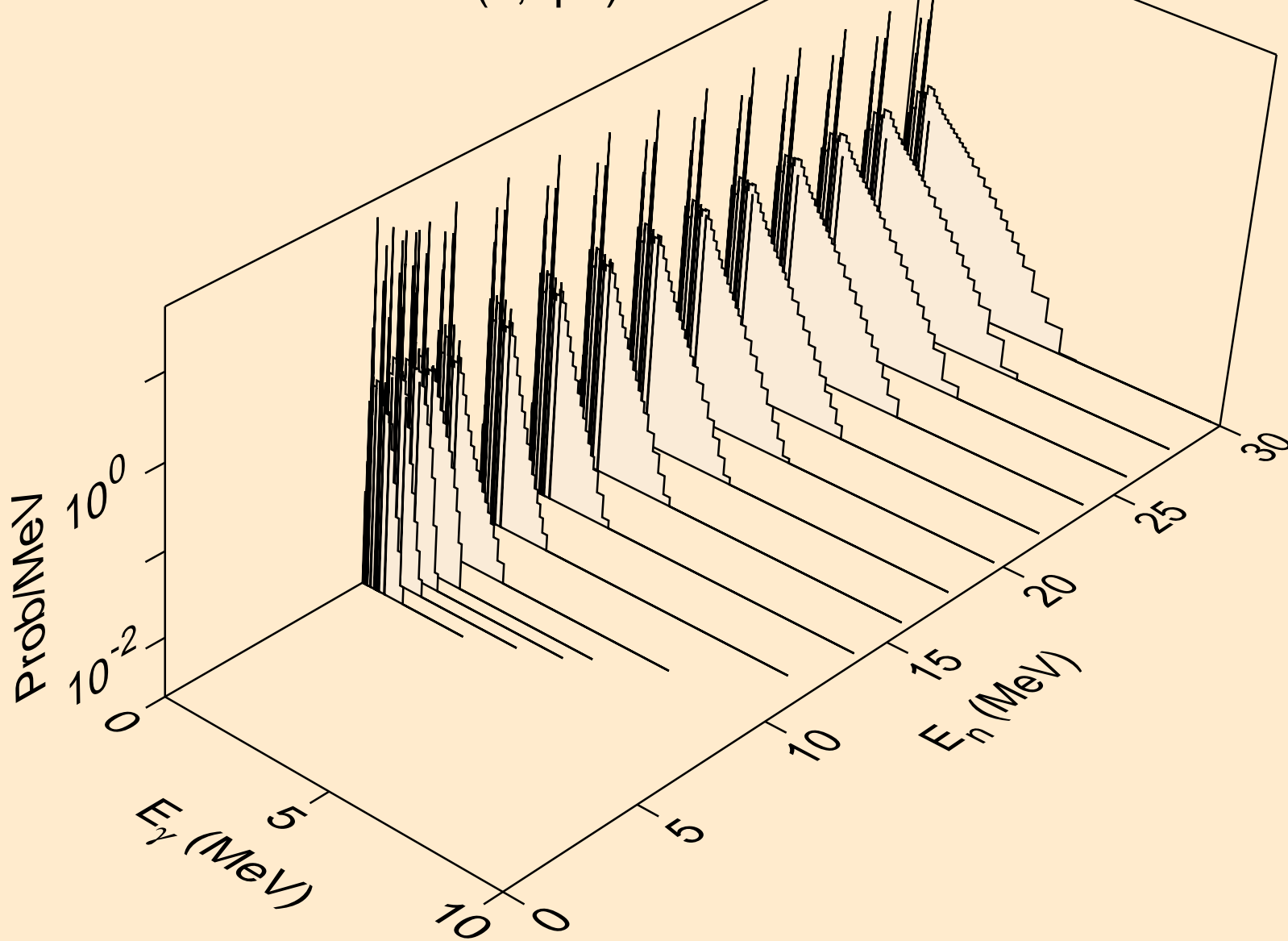
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Photon emission for (n,3np)



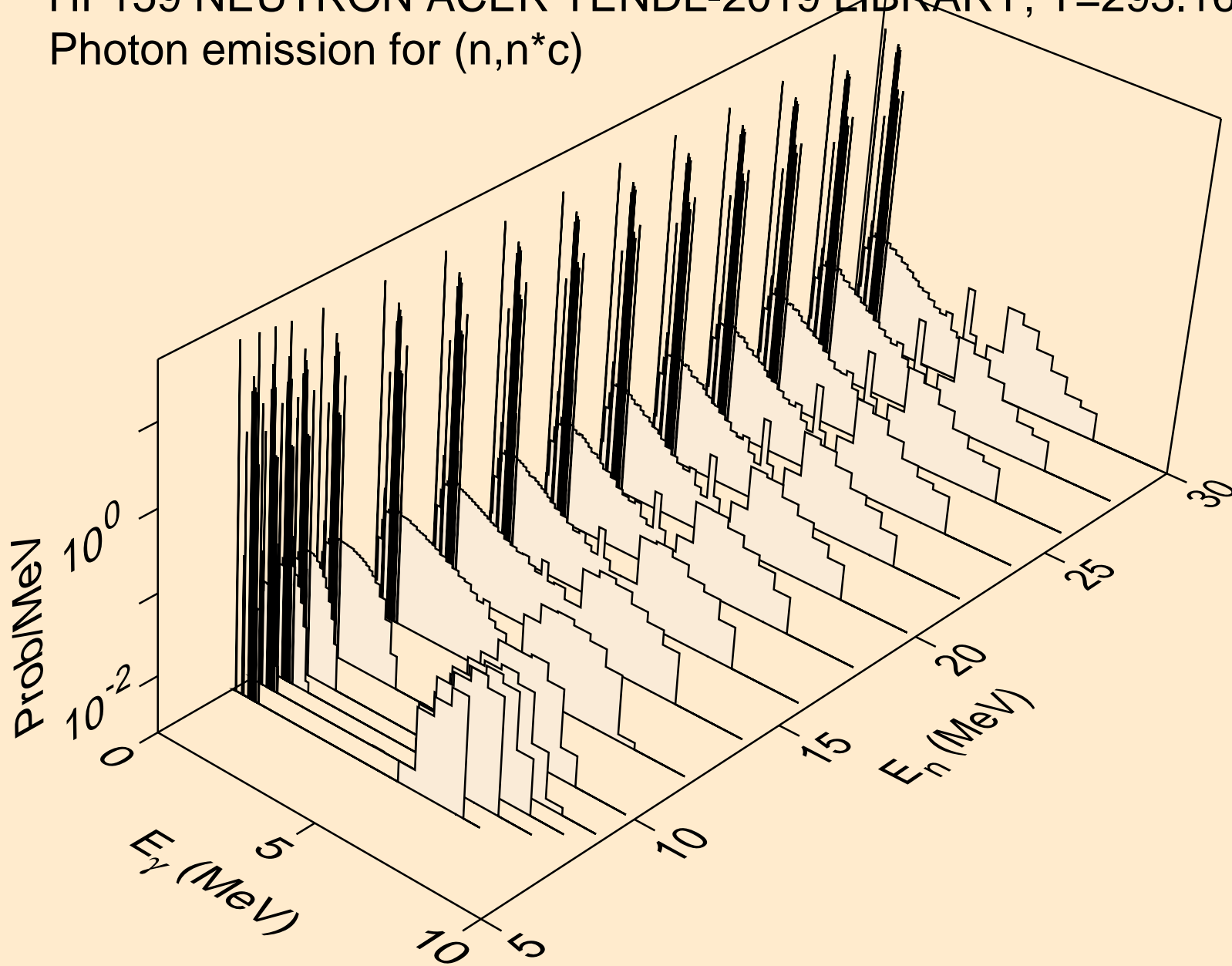
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Photon emission for (n,2np)



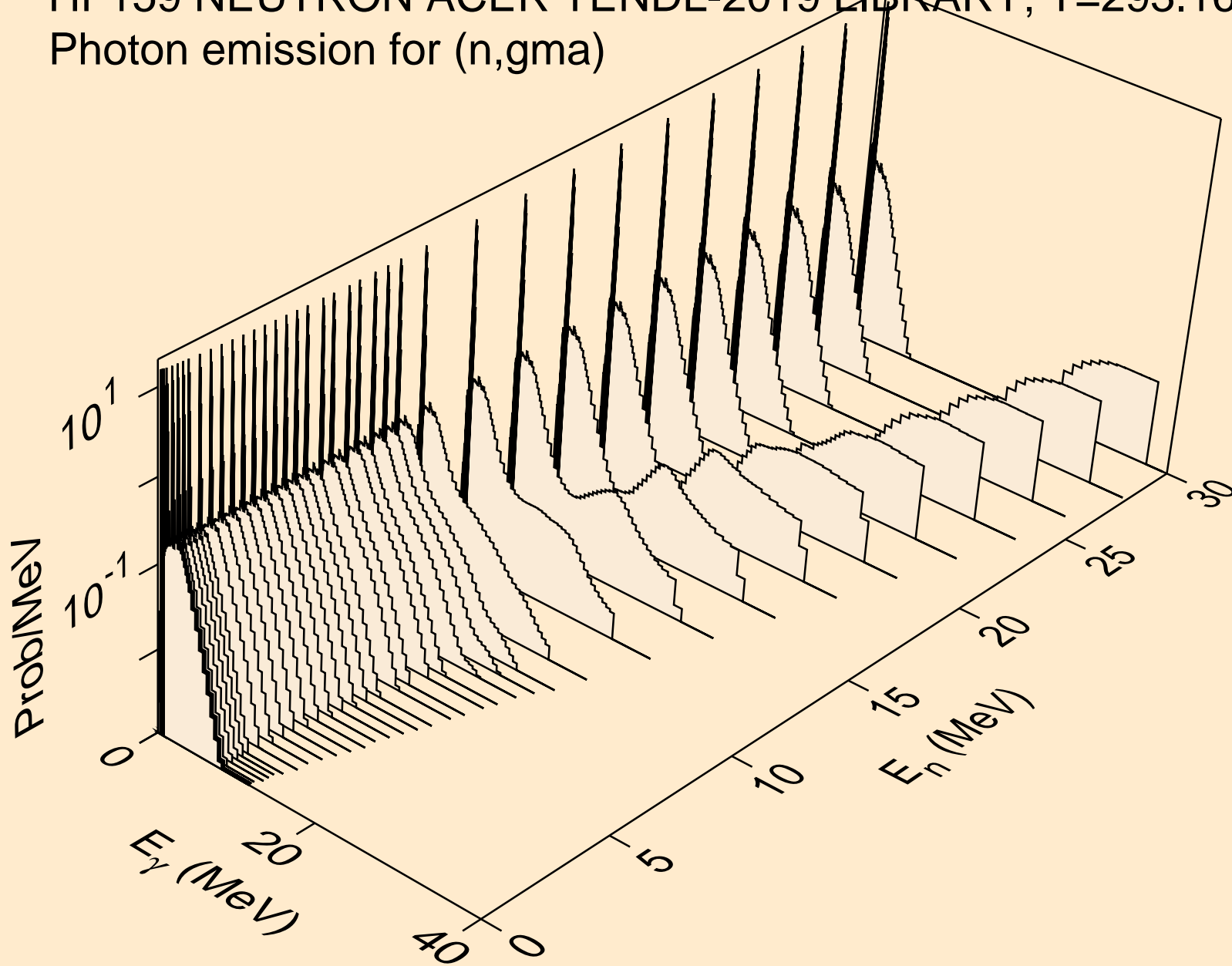
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Photon emission for (n,npa)



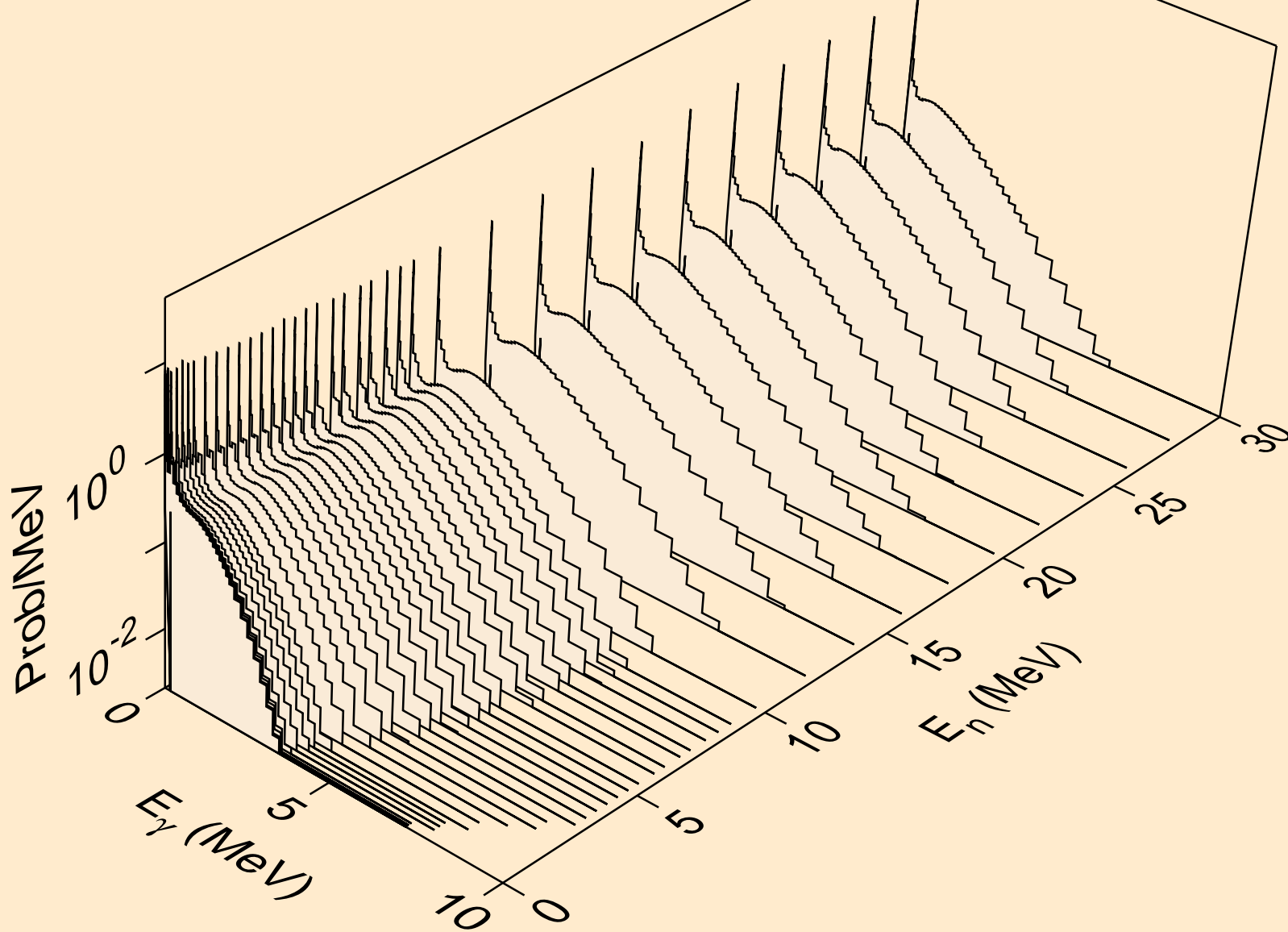
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,n\*c)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,gma)

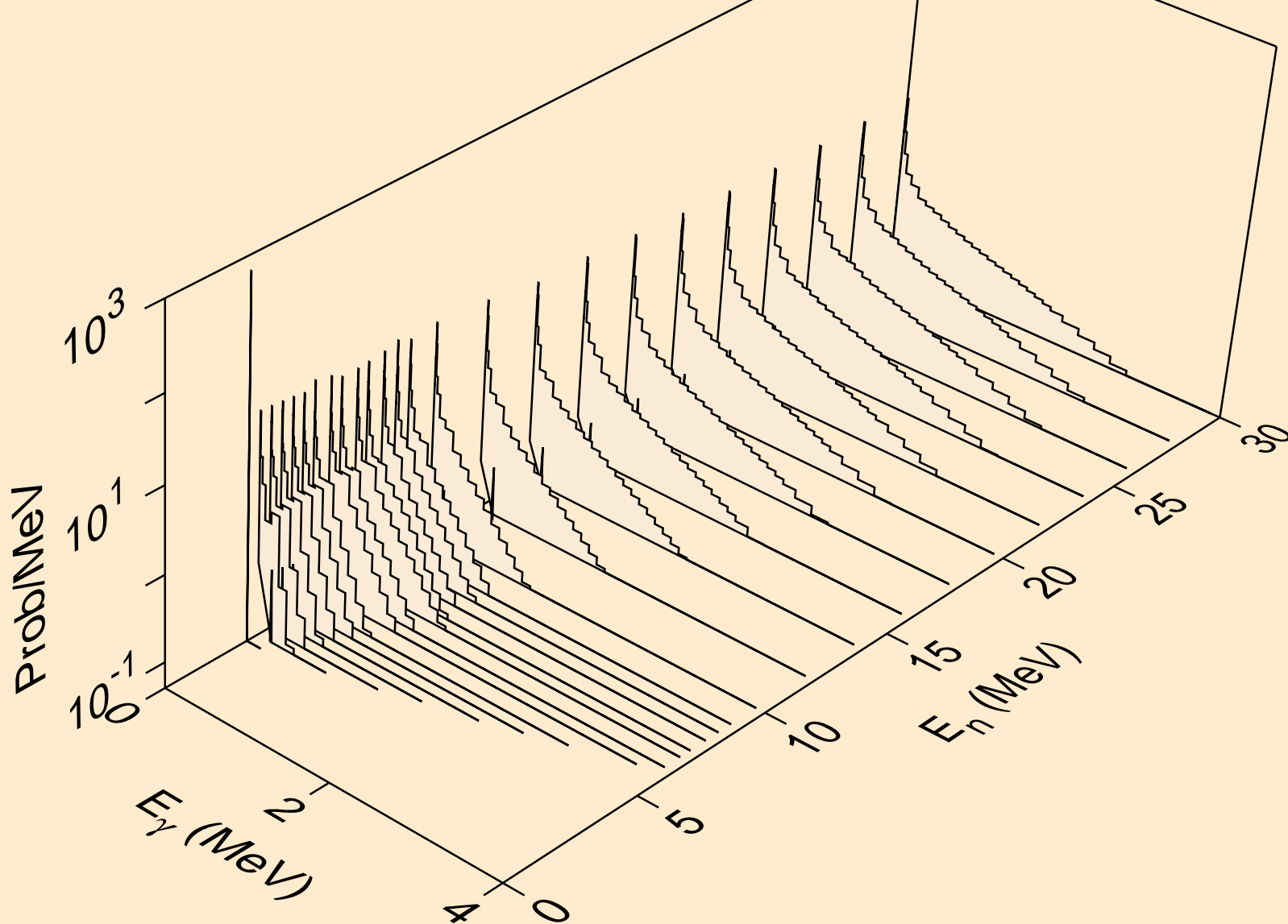


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,p)

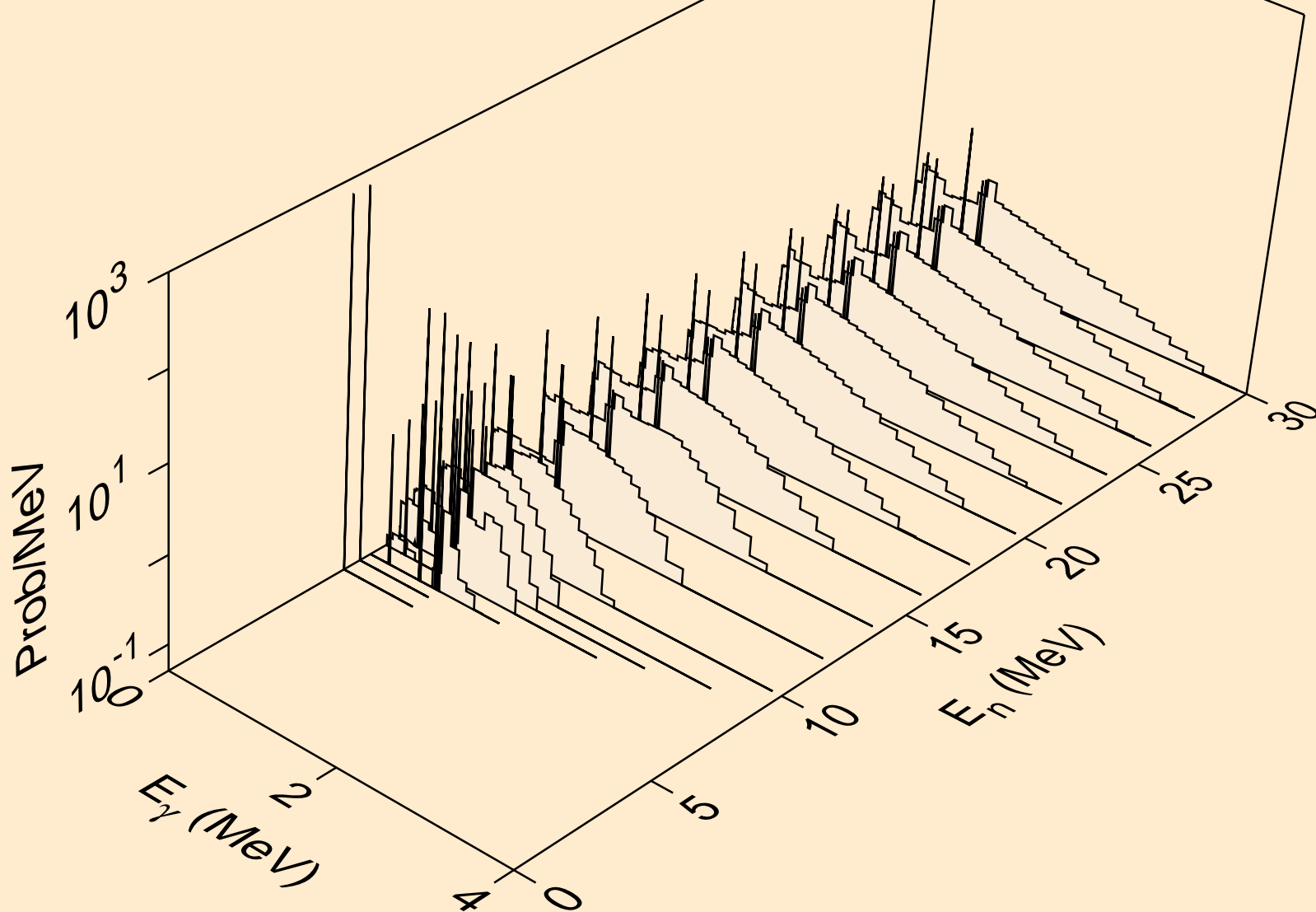




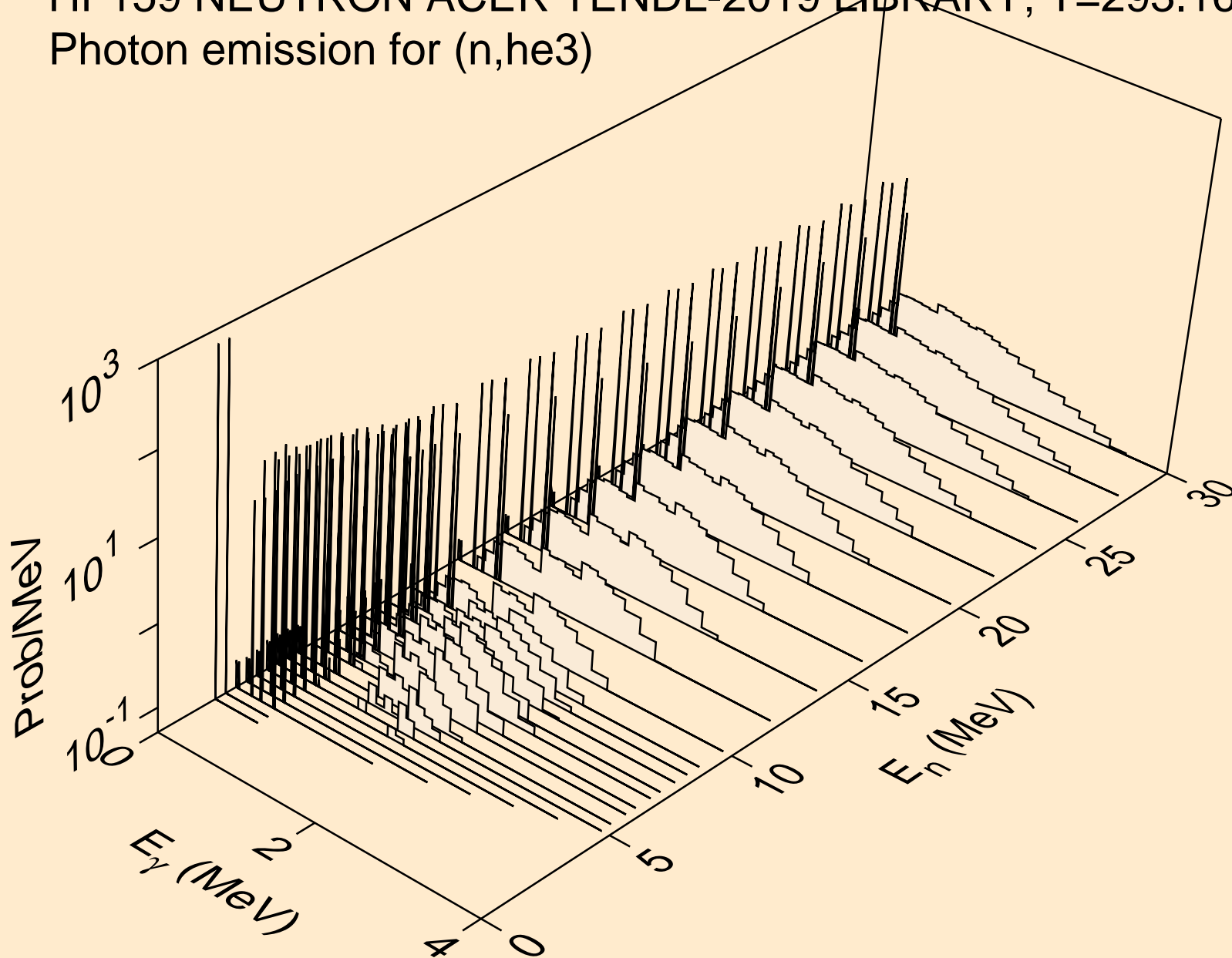
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Photon emission for (n,d)



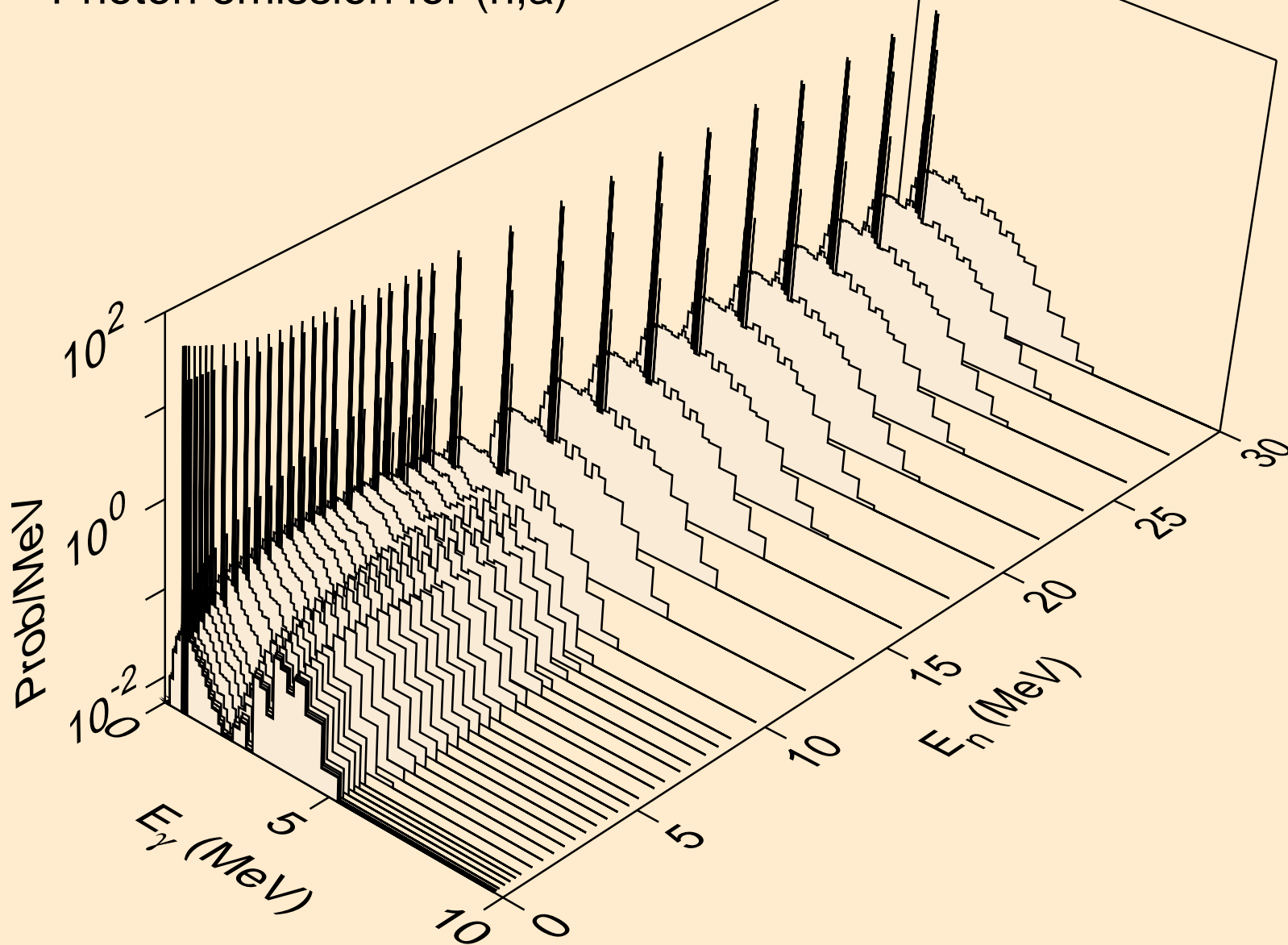
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Photon emission for (n,t)



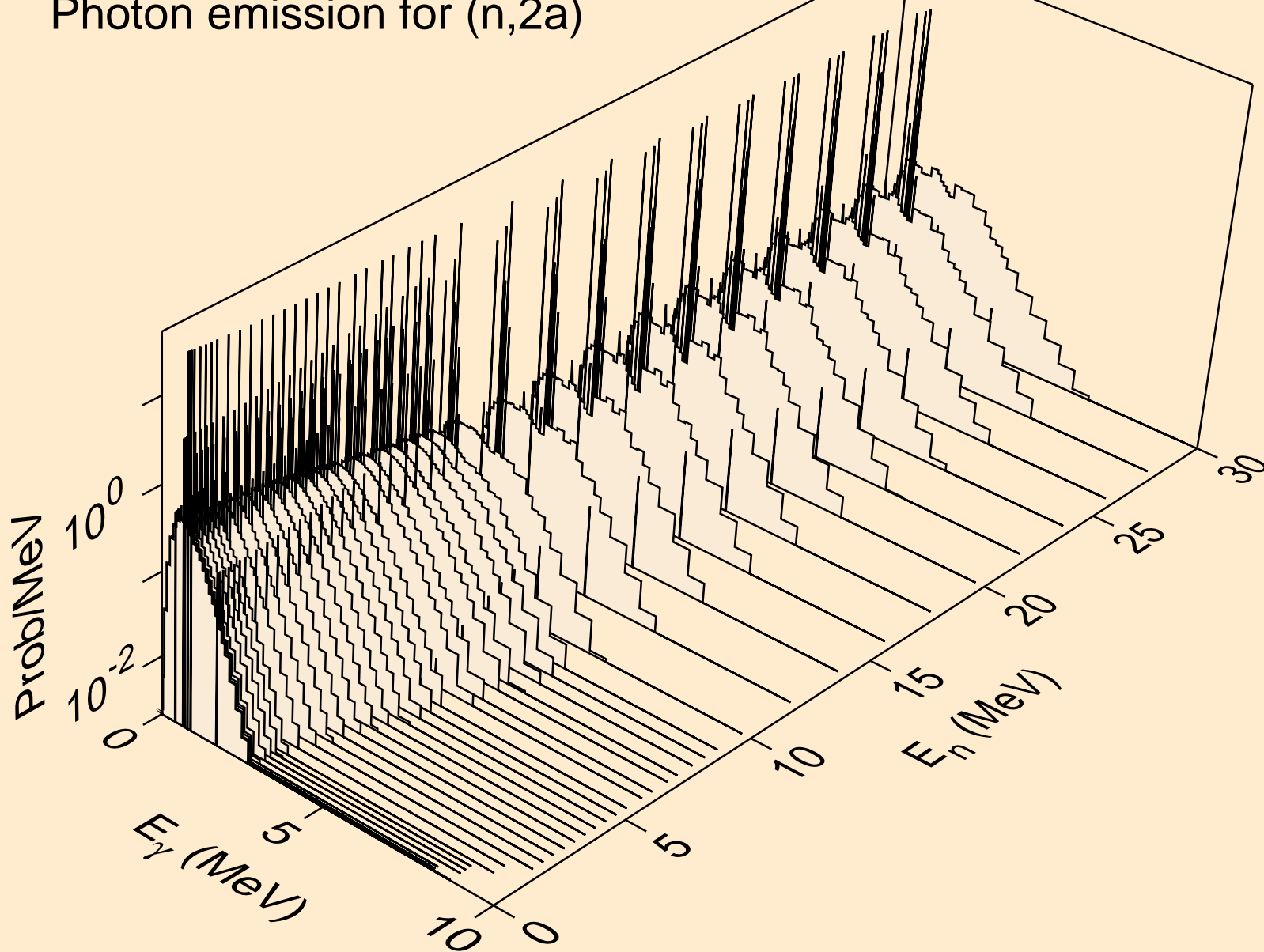
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Photon emission for (n,he3)



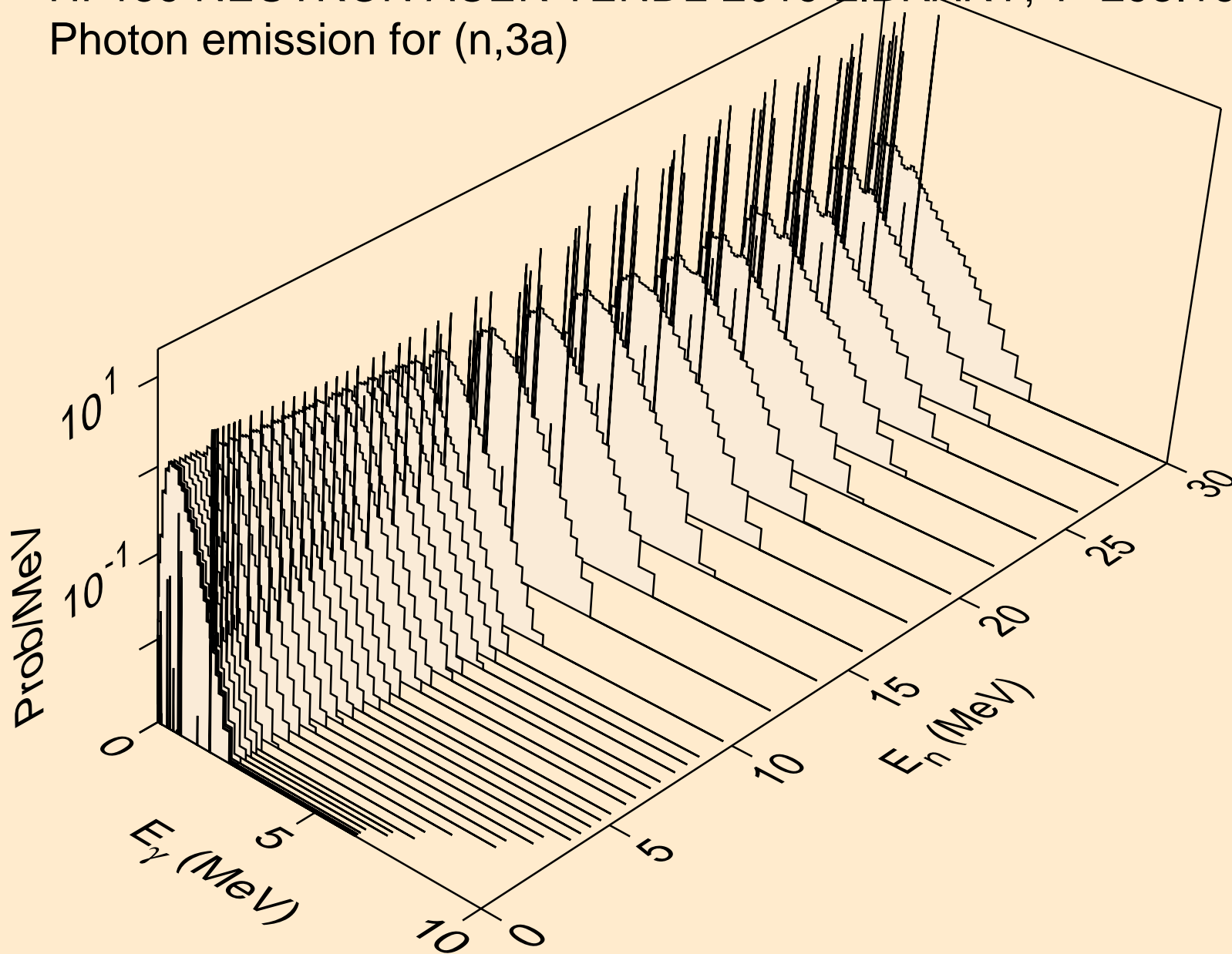
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Photon emission for (n,a)



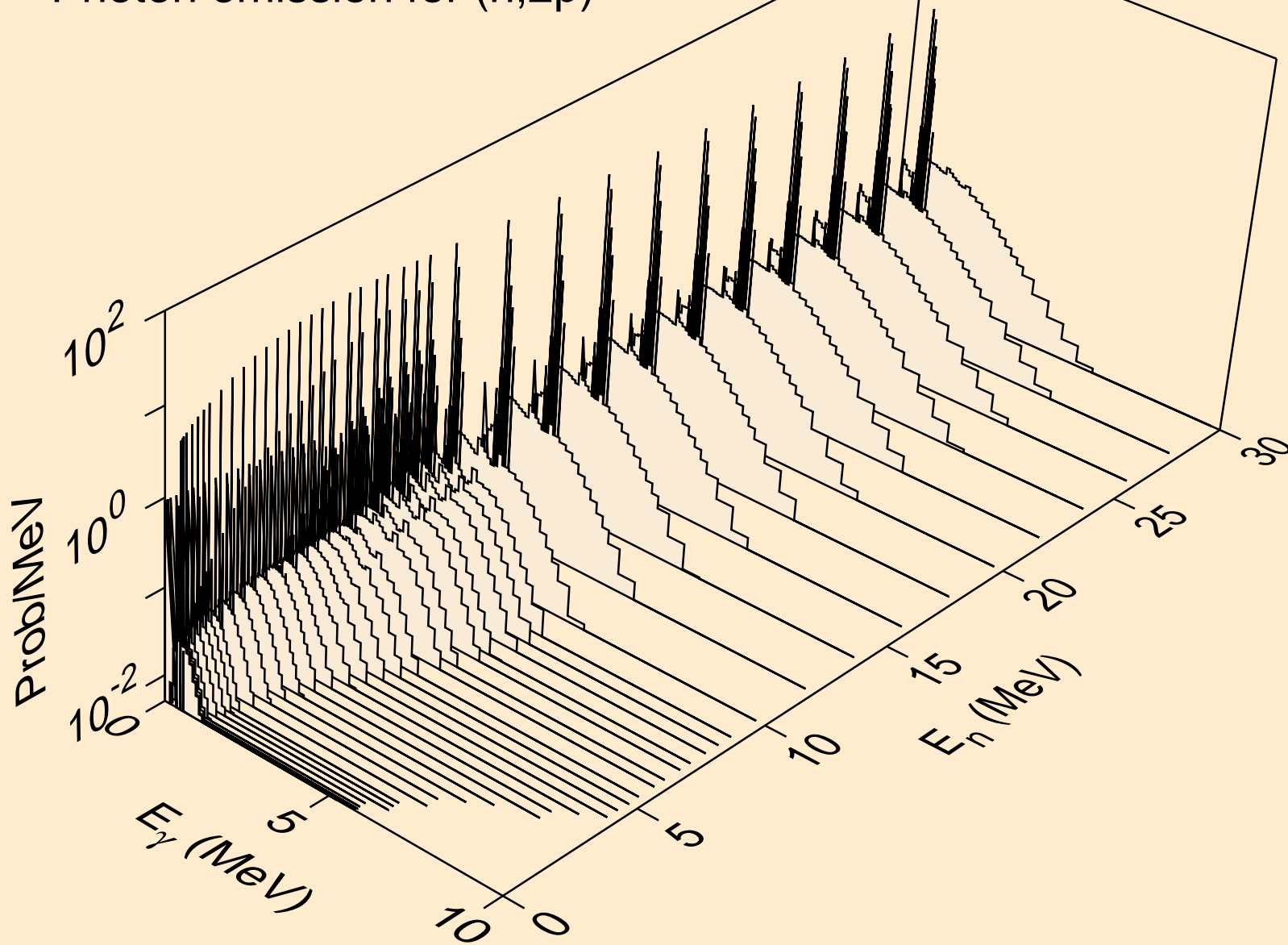
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Photon emission for (n,2a)



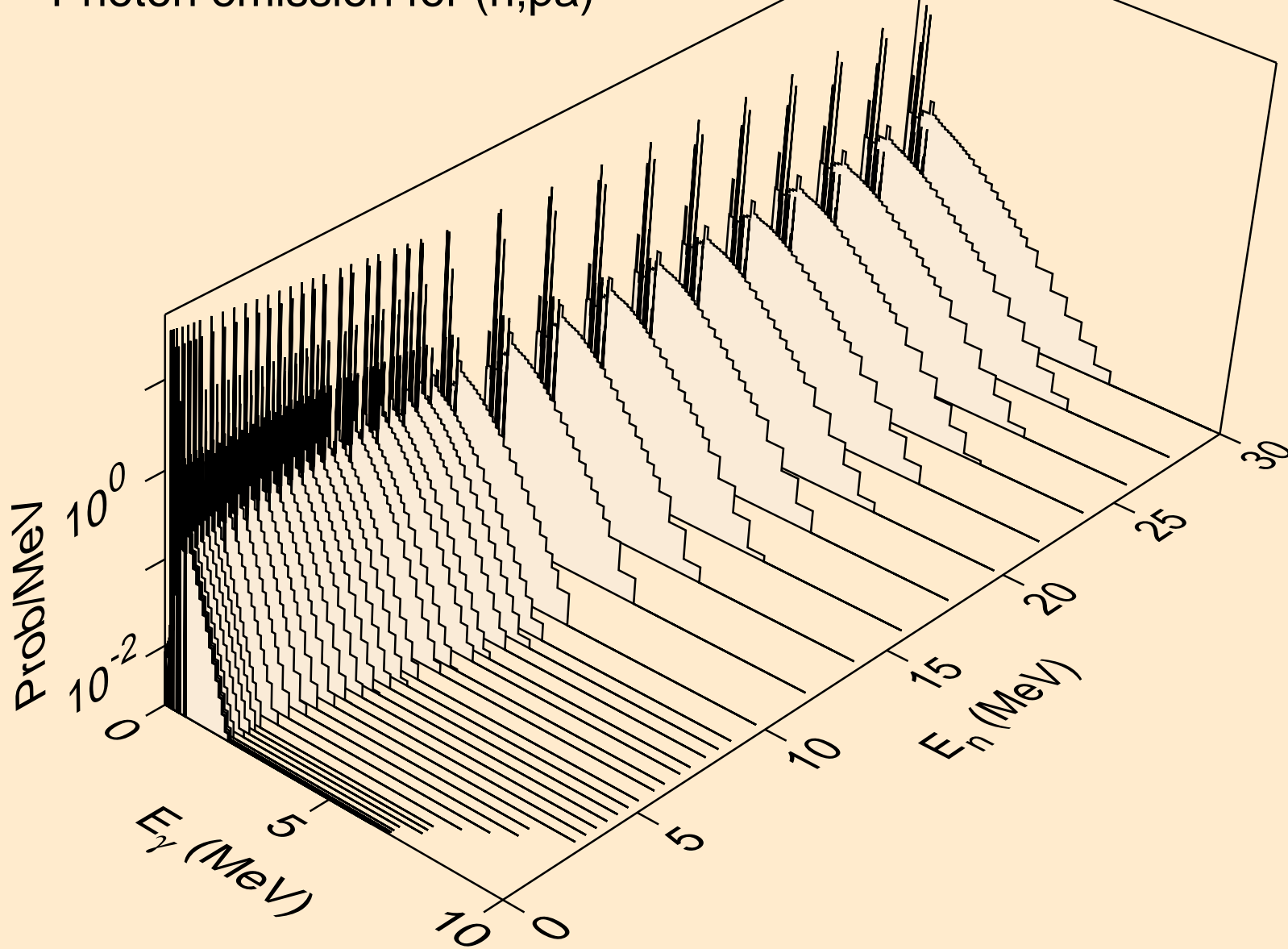
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,3a)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
Photon emission for (n,2p)

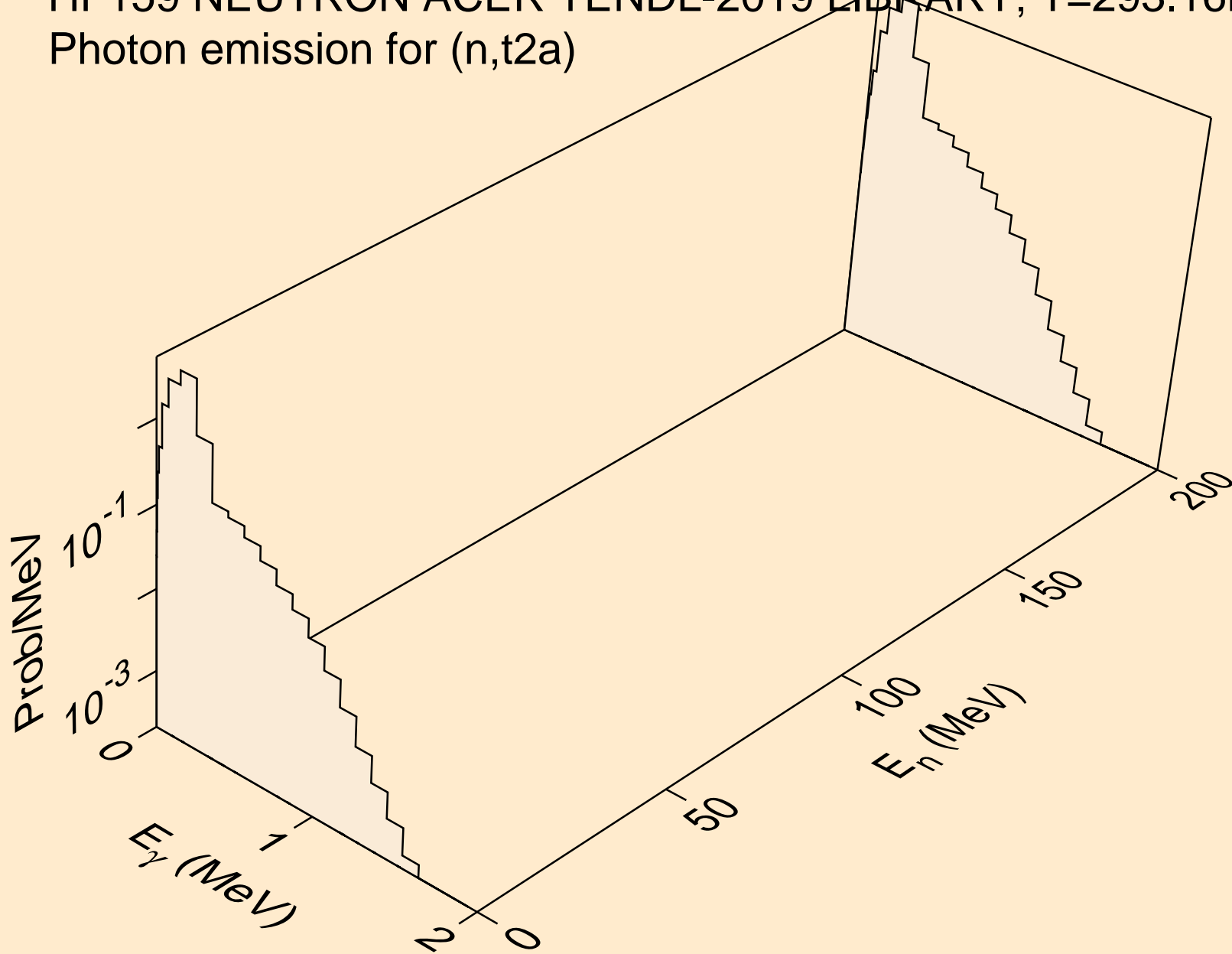


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Photon emission for (n,p $\alpha$ )

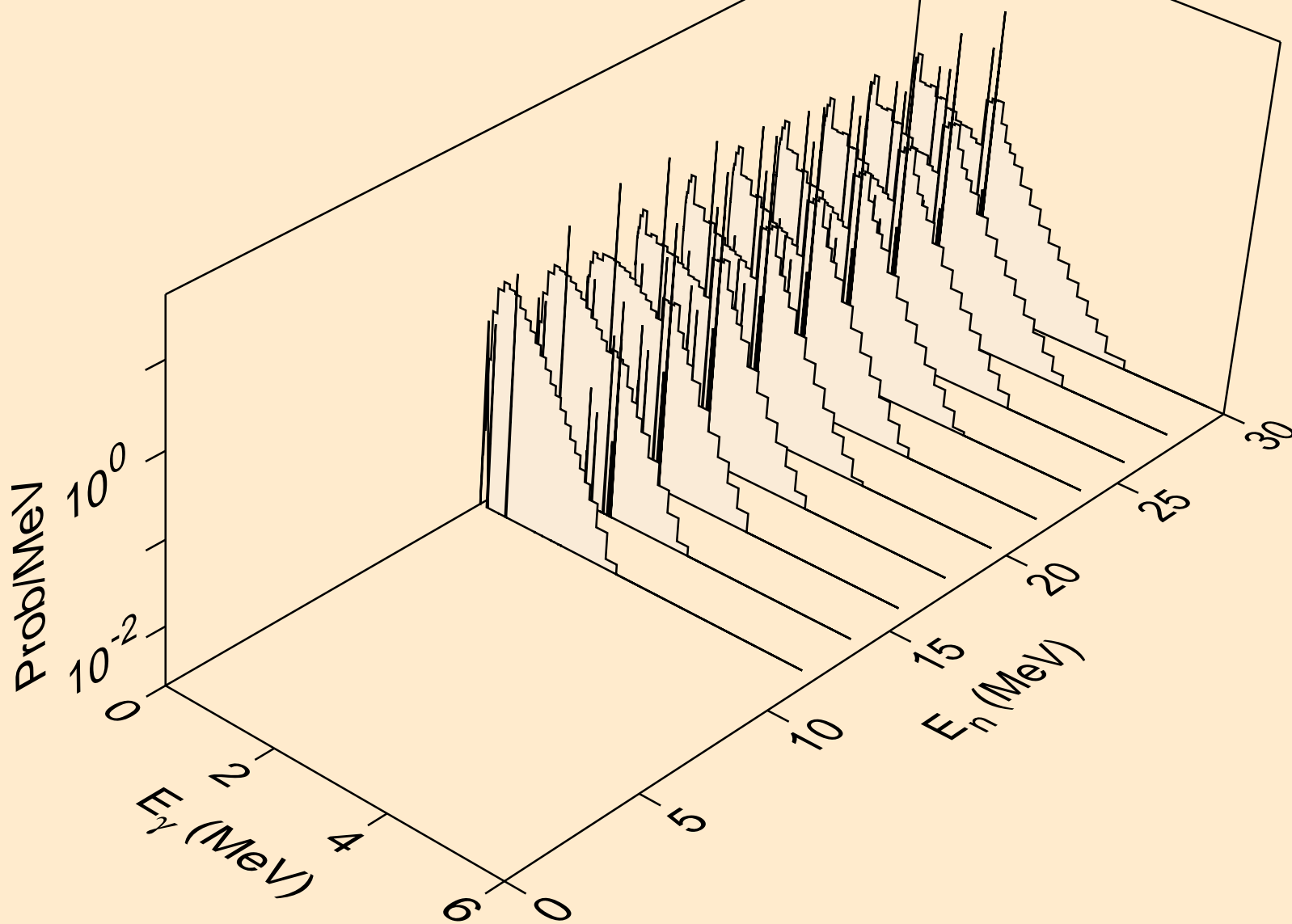




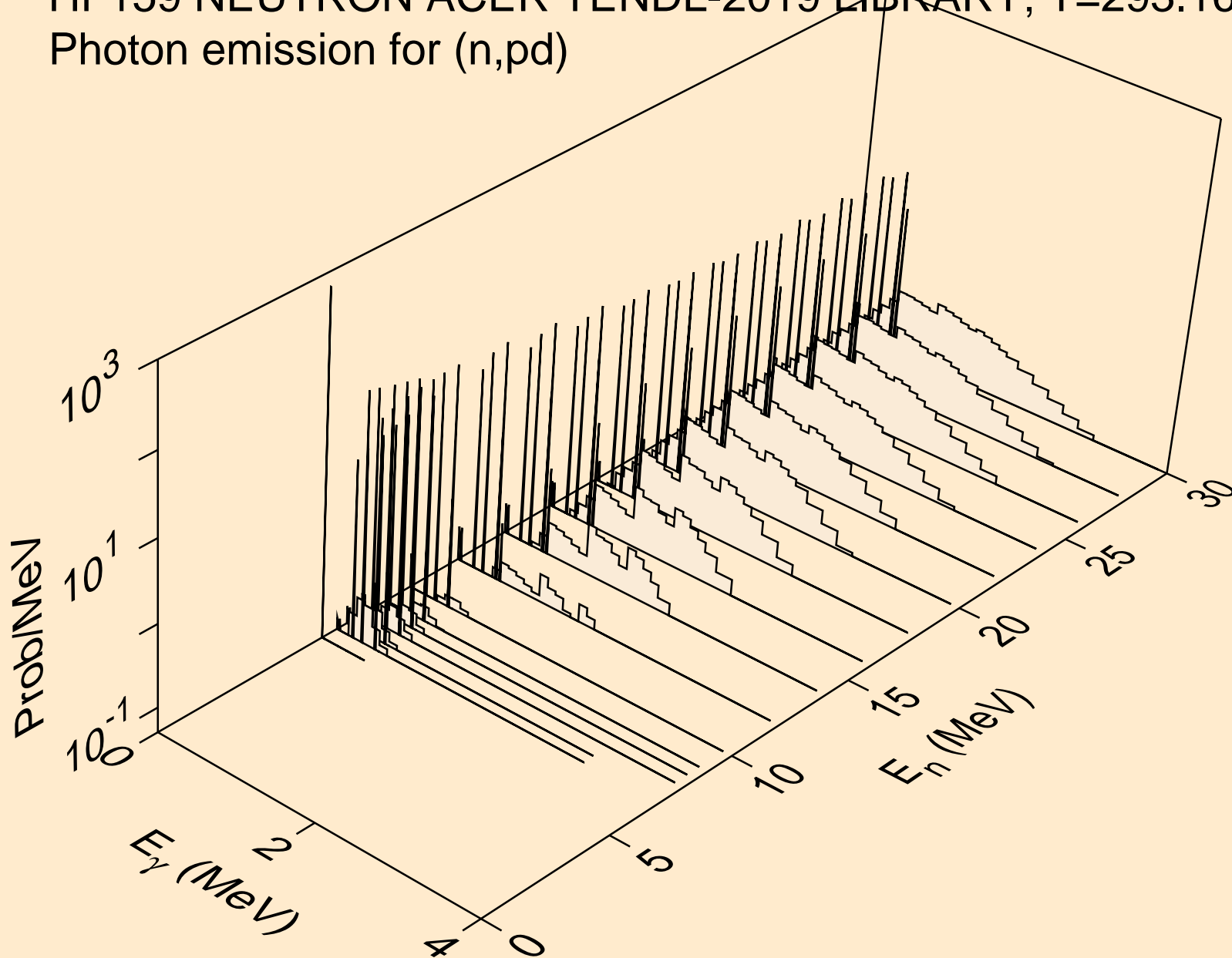
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Photon emission for (n,t2a)



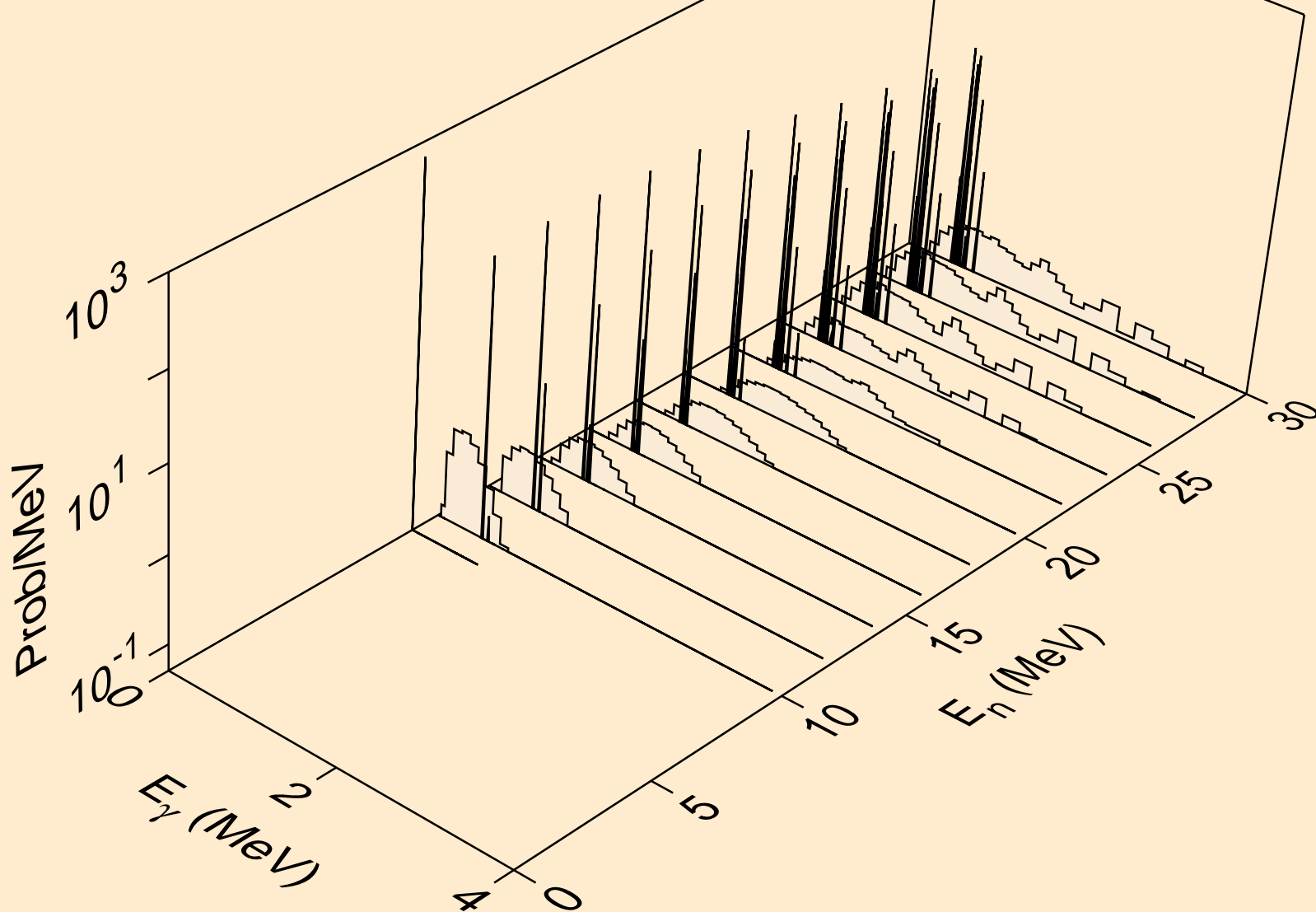
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Photon emission for (n,d2a)



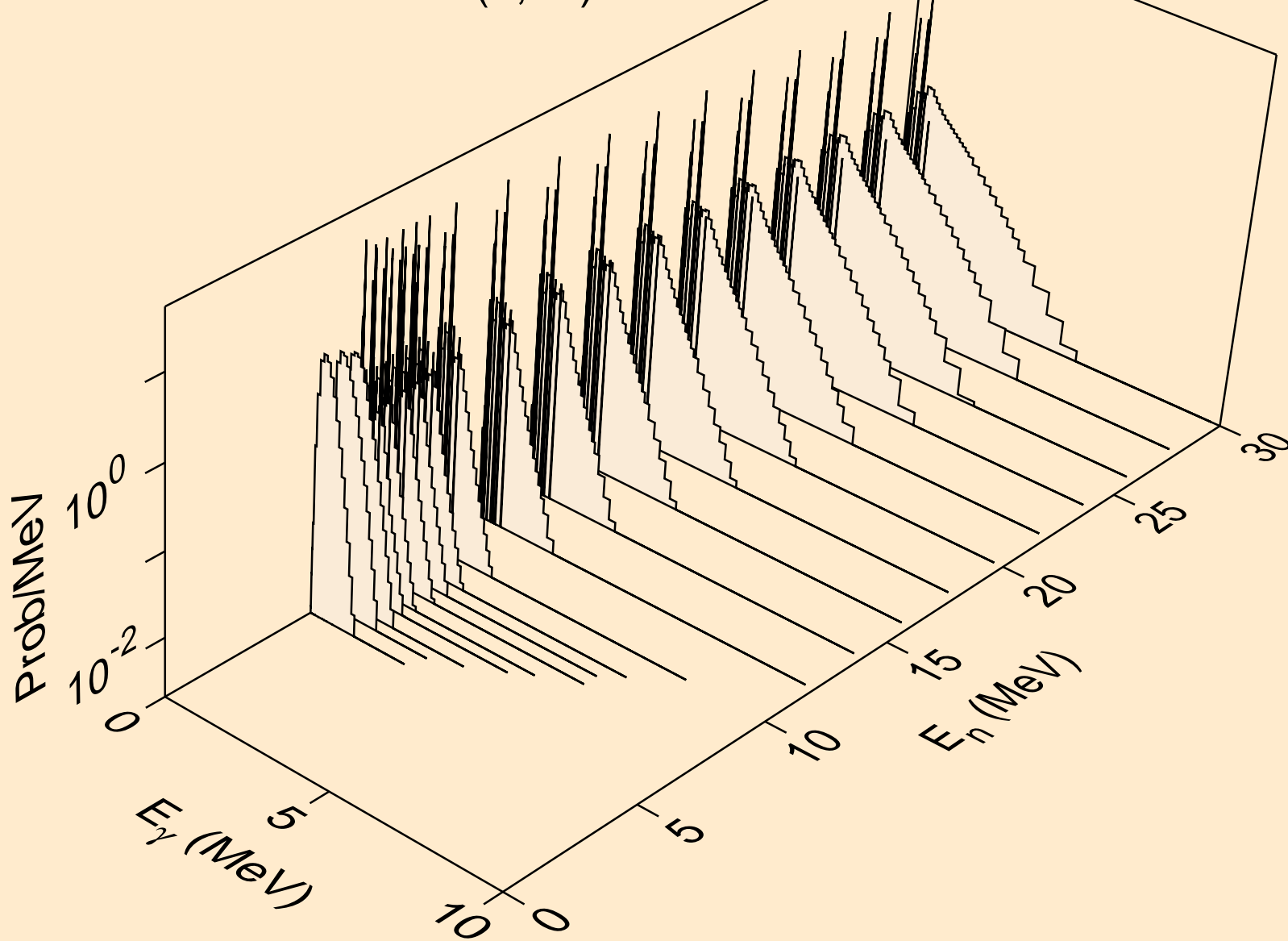
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Photon emission for (n,pd)



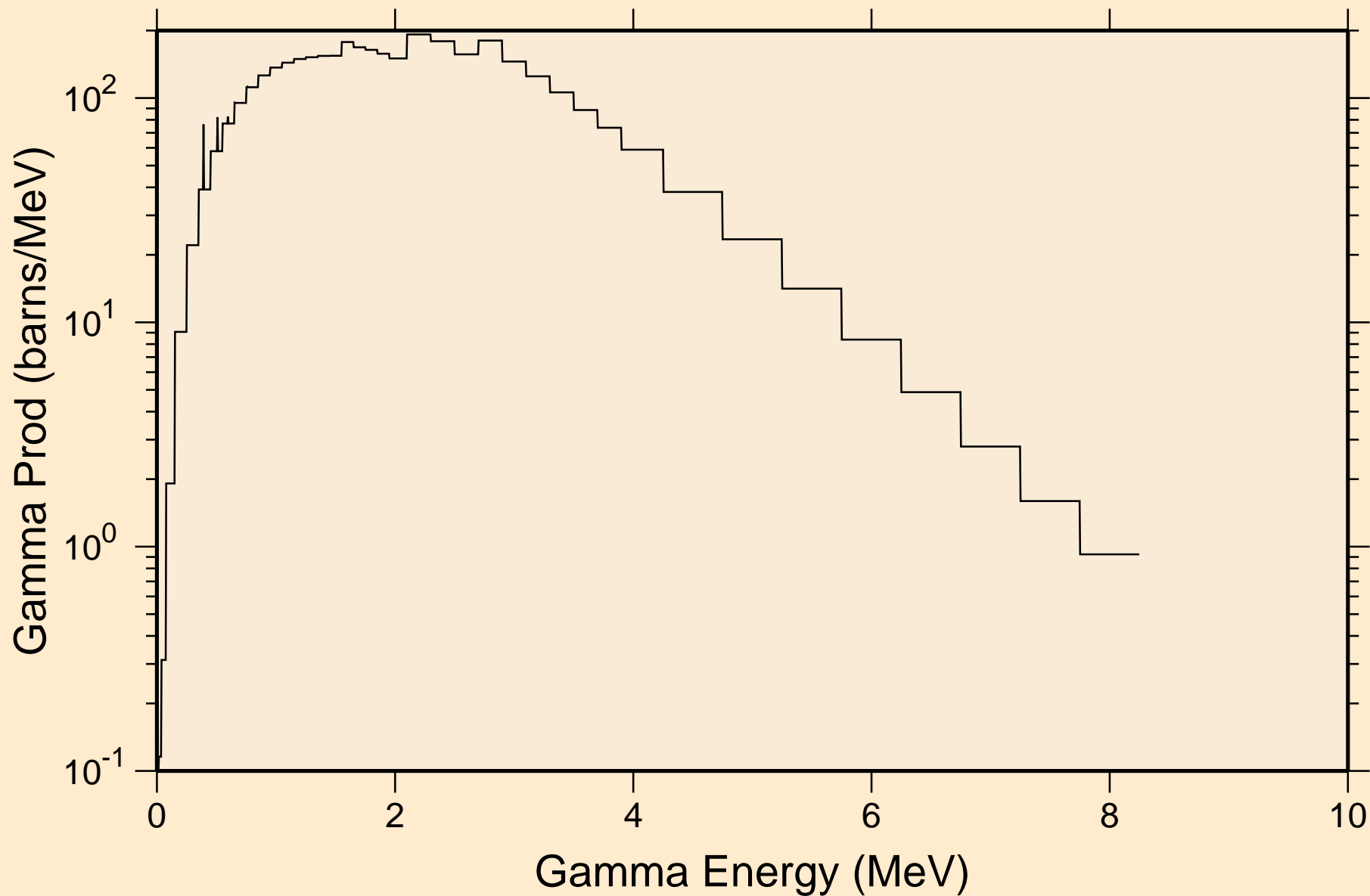
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Photon emission for (n,pt)



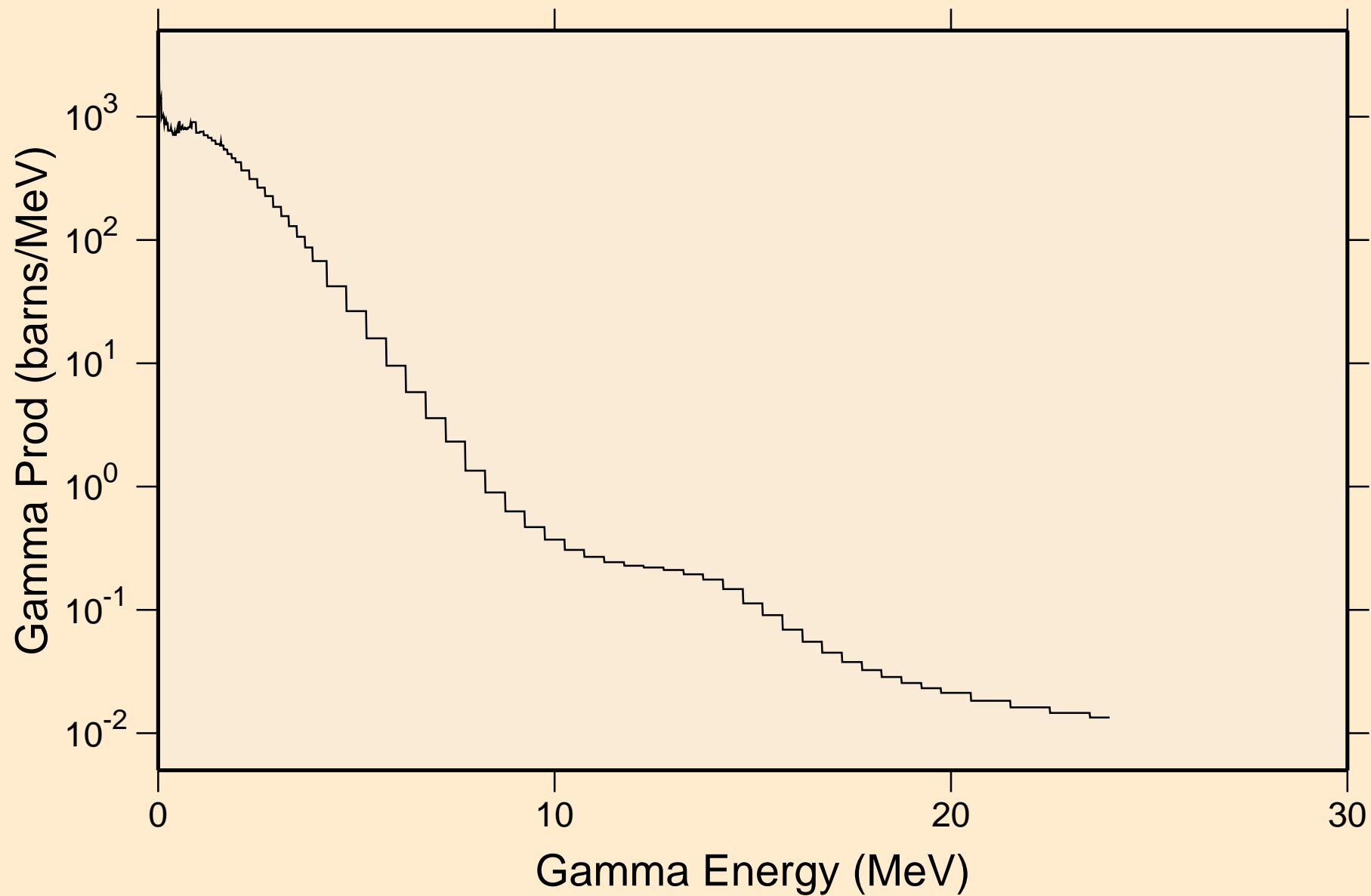
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Photon emission for (n,da)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
thermal capture photon spectrum

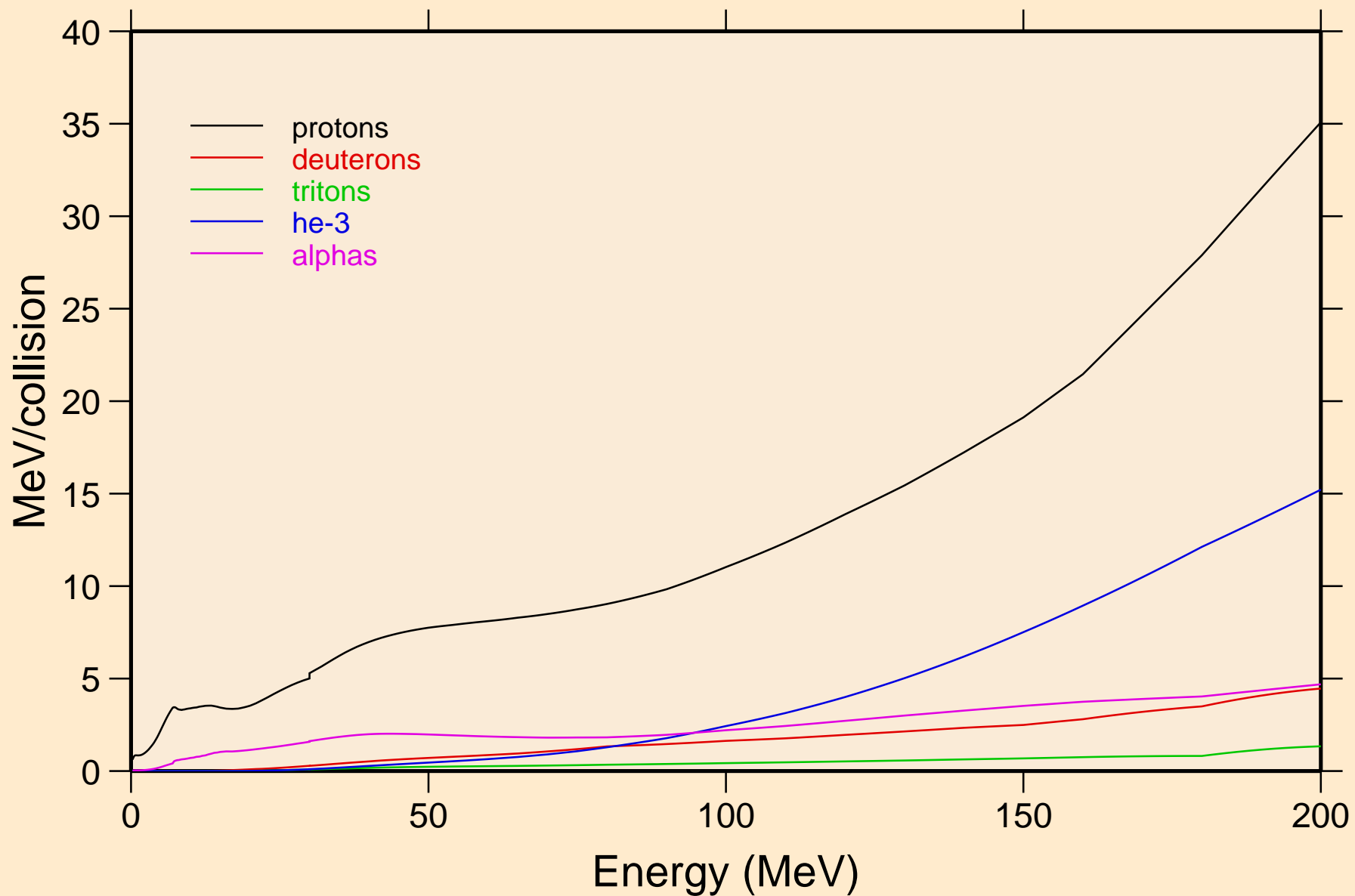


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
14 MeV photon spectrum



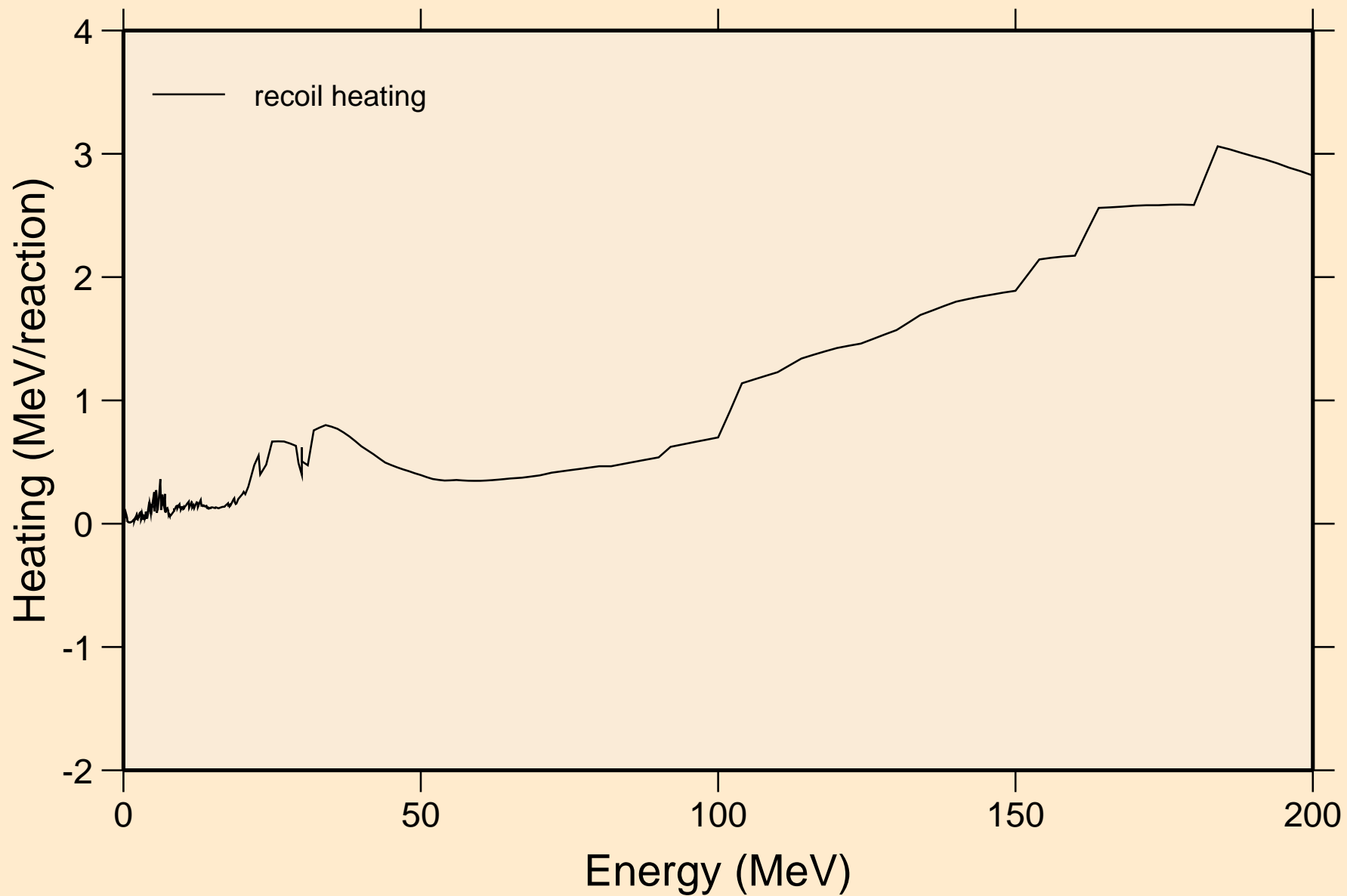
# HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K

## Particle heating contributions



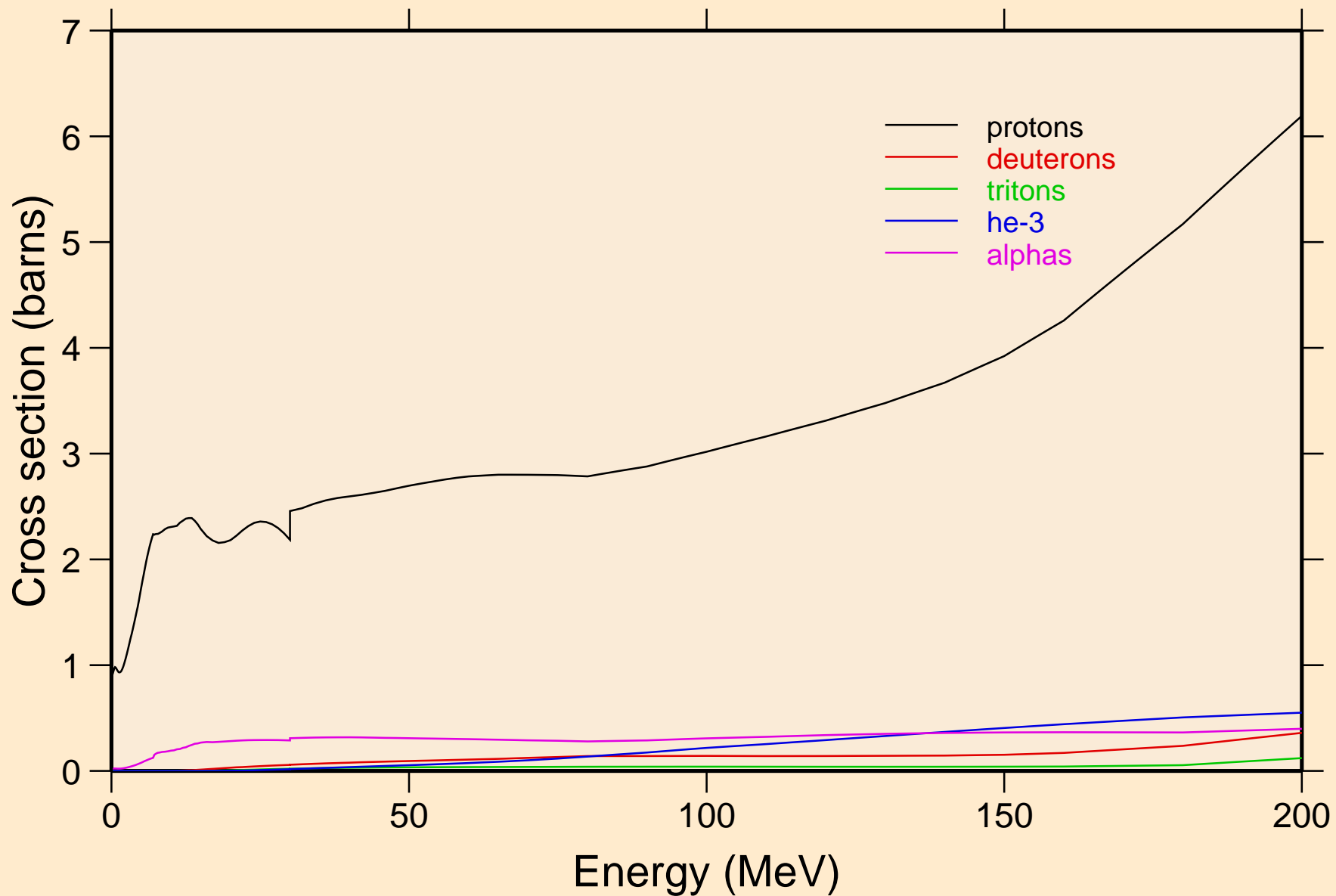


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Recoil Heating

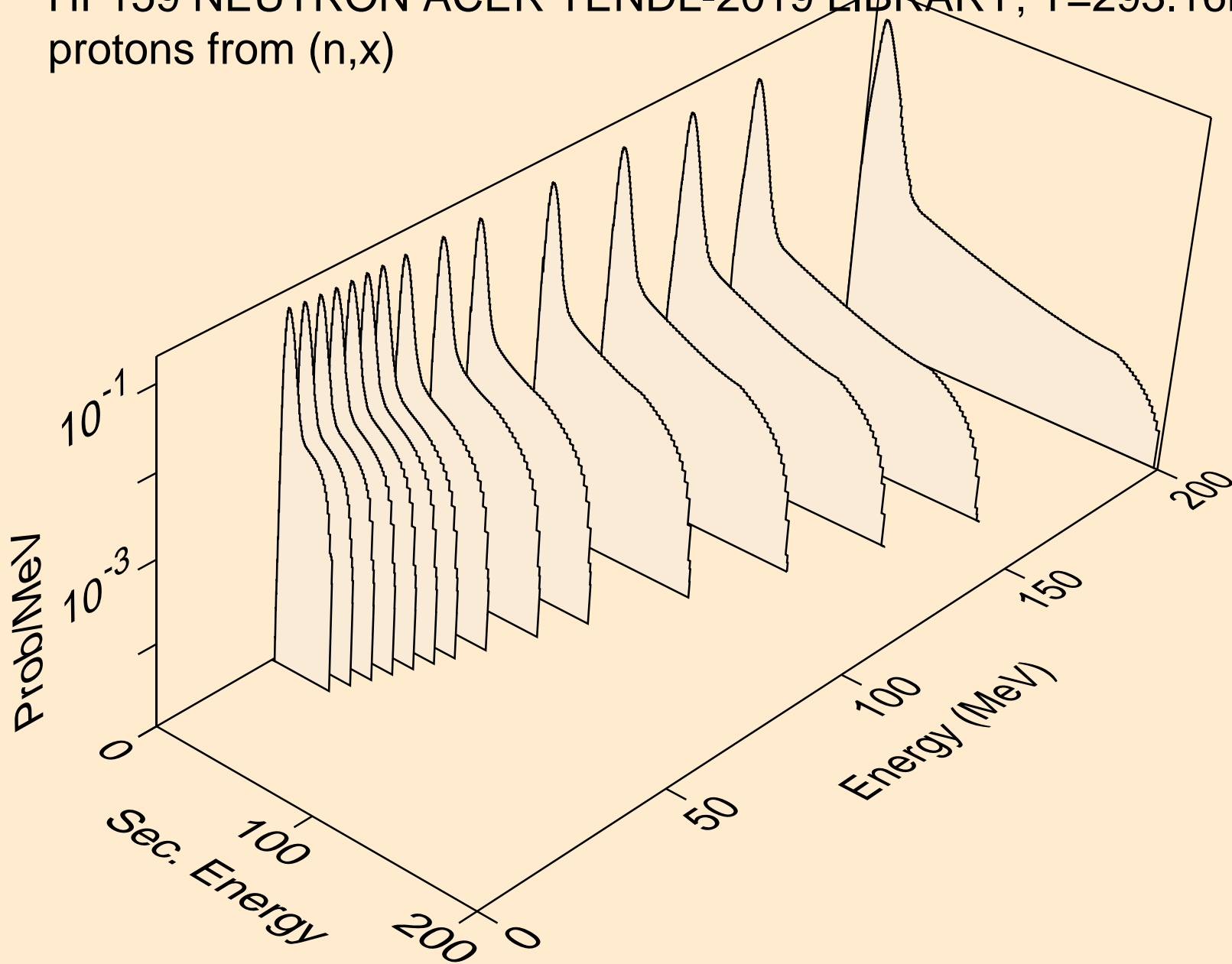


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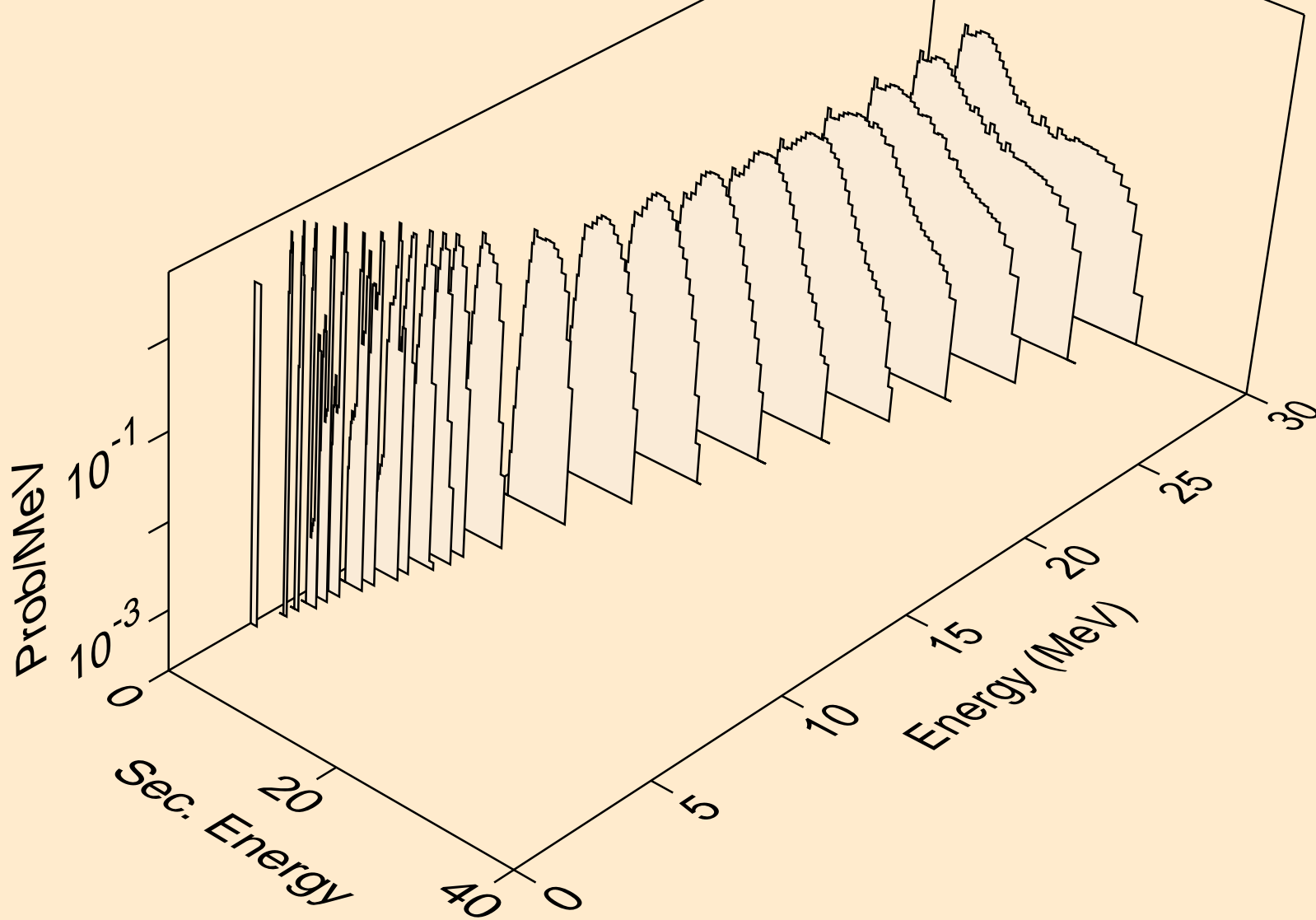
## Particle production cross sections



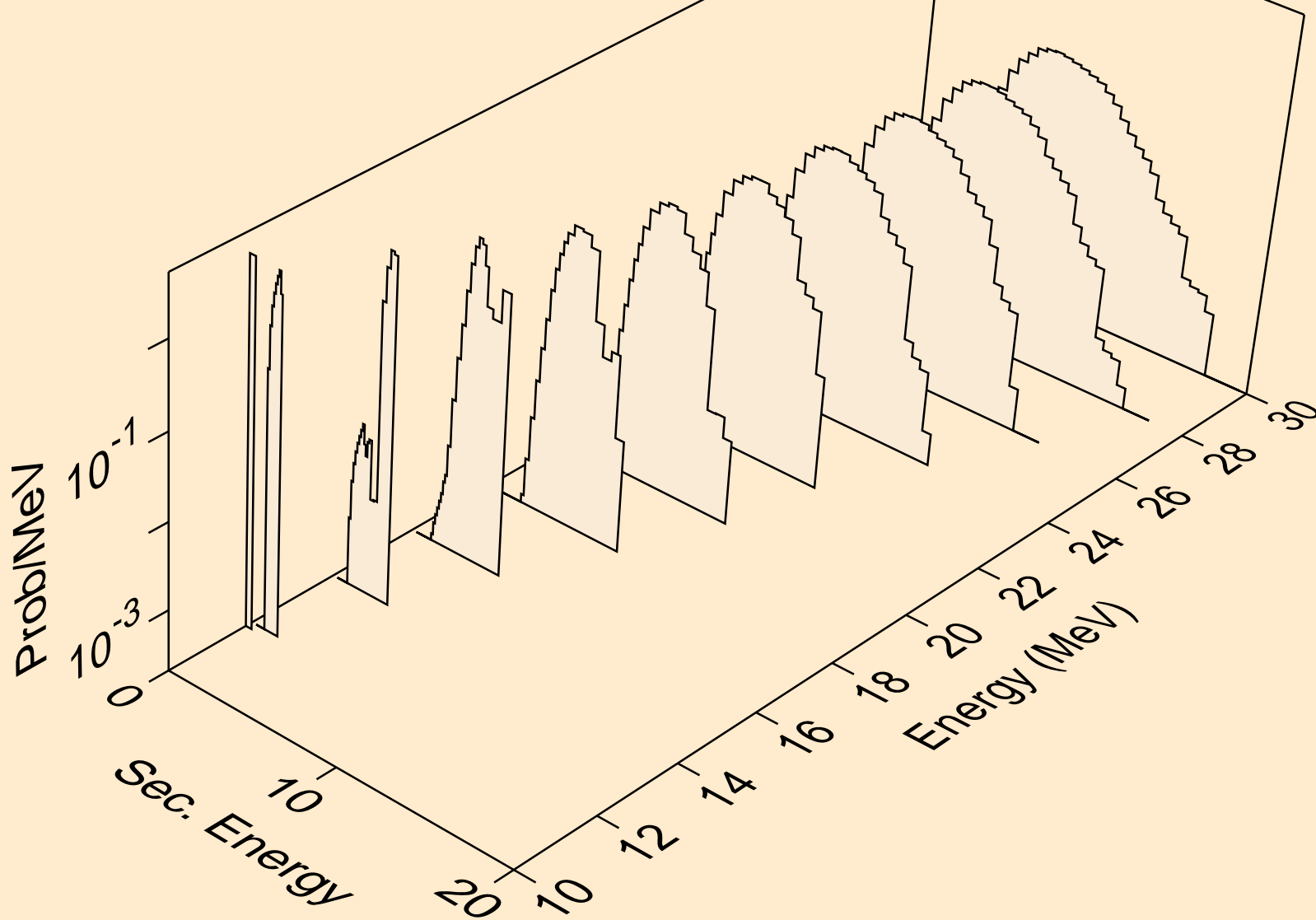
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
protons from (n,x)



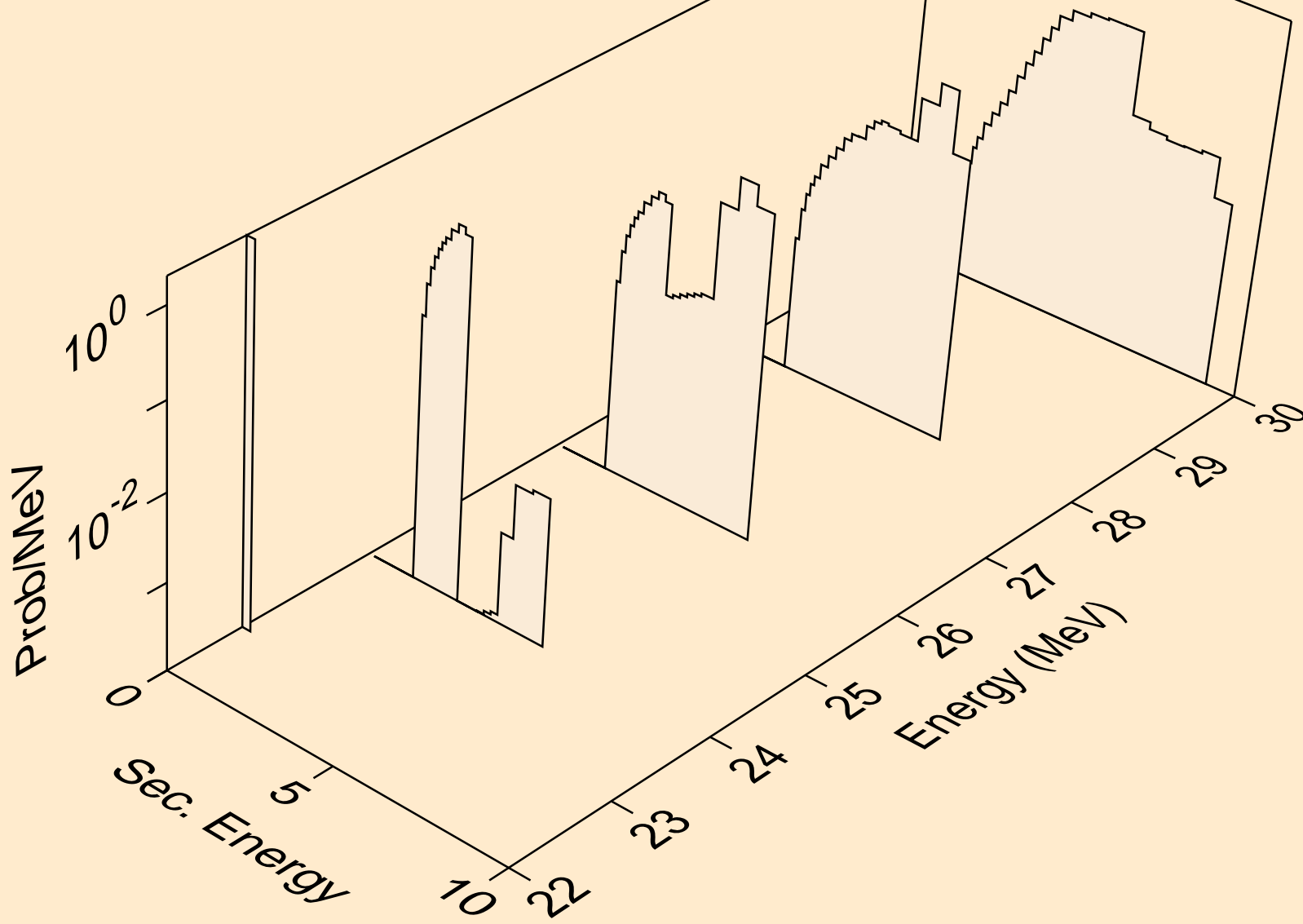
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protons from (n,n\*)p



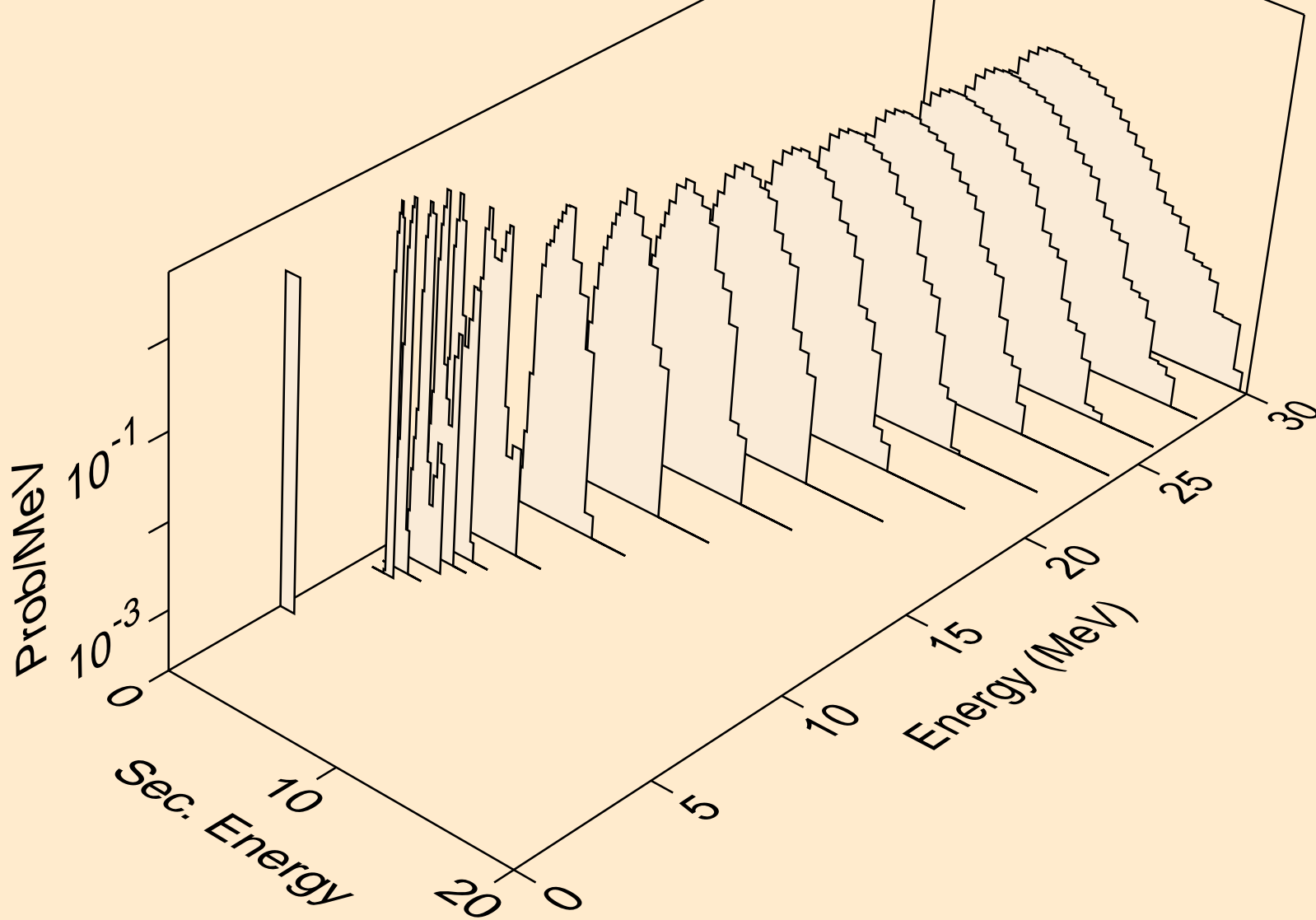
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protons from (n,2np)



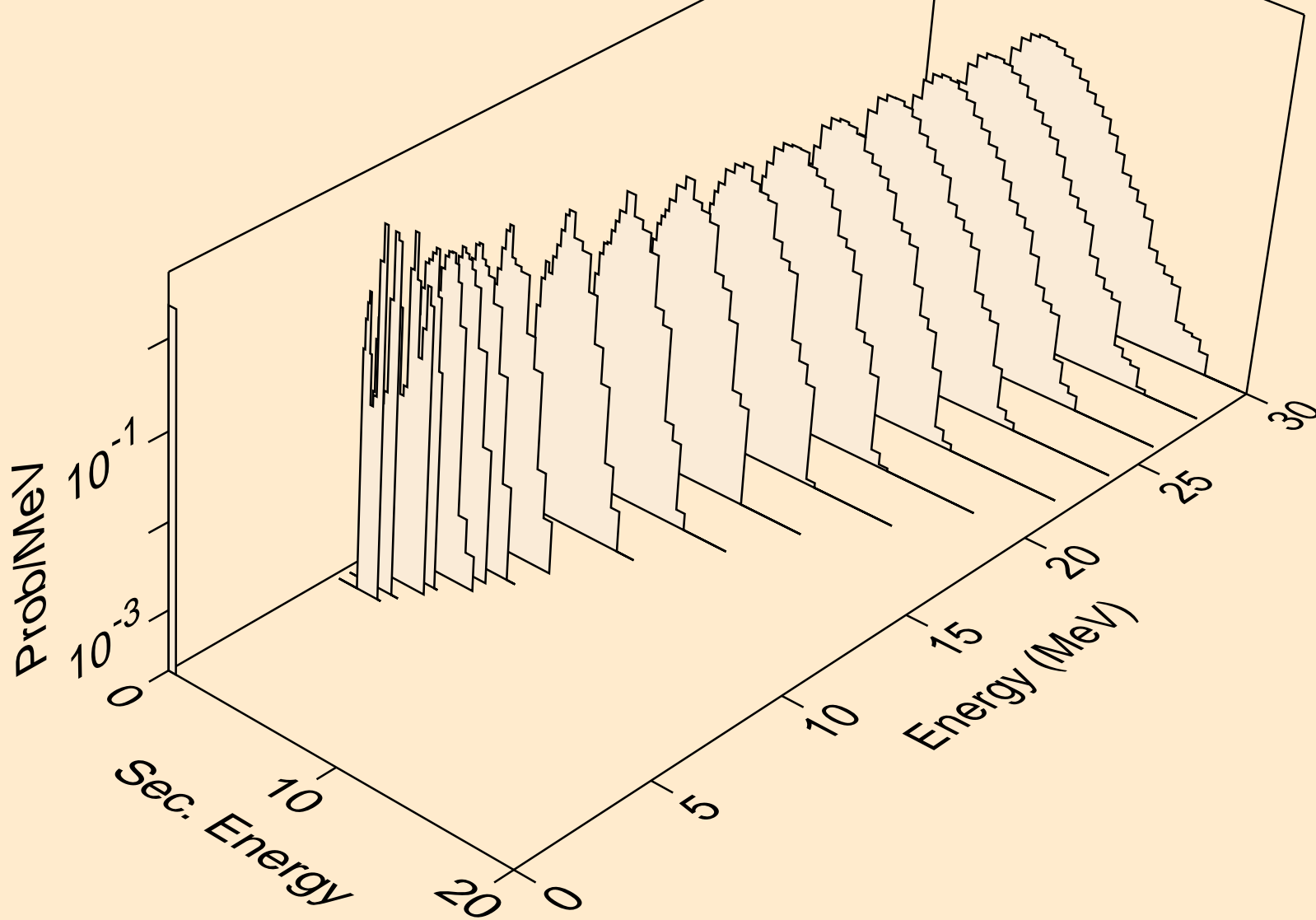
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protons from (n,3np)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
protons from (n,2np)

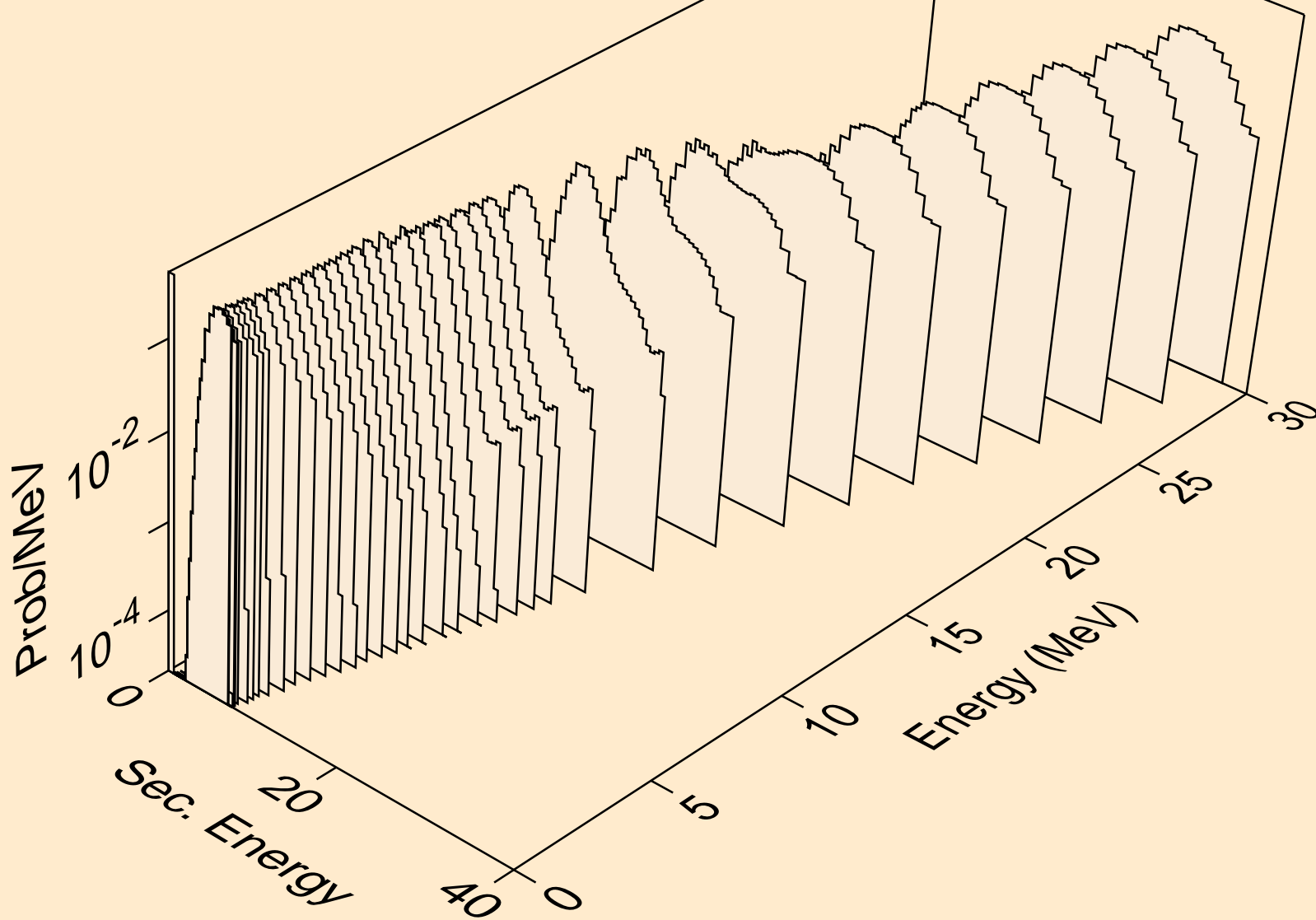


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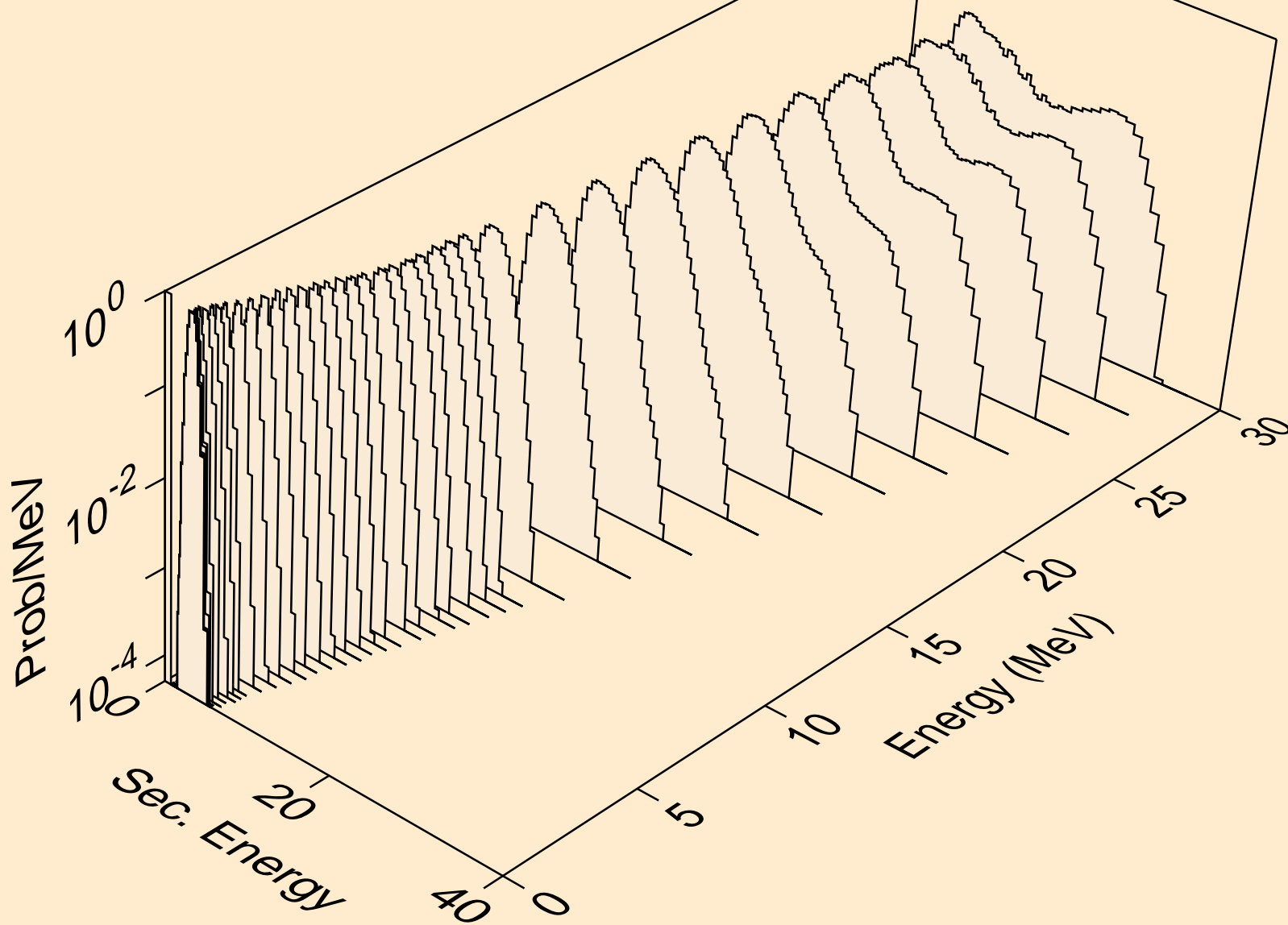




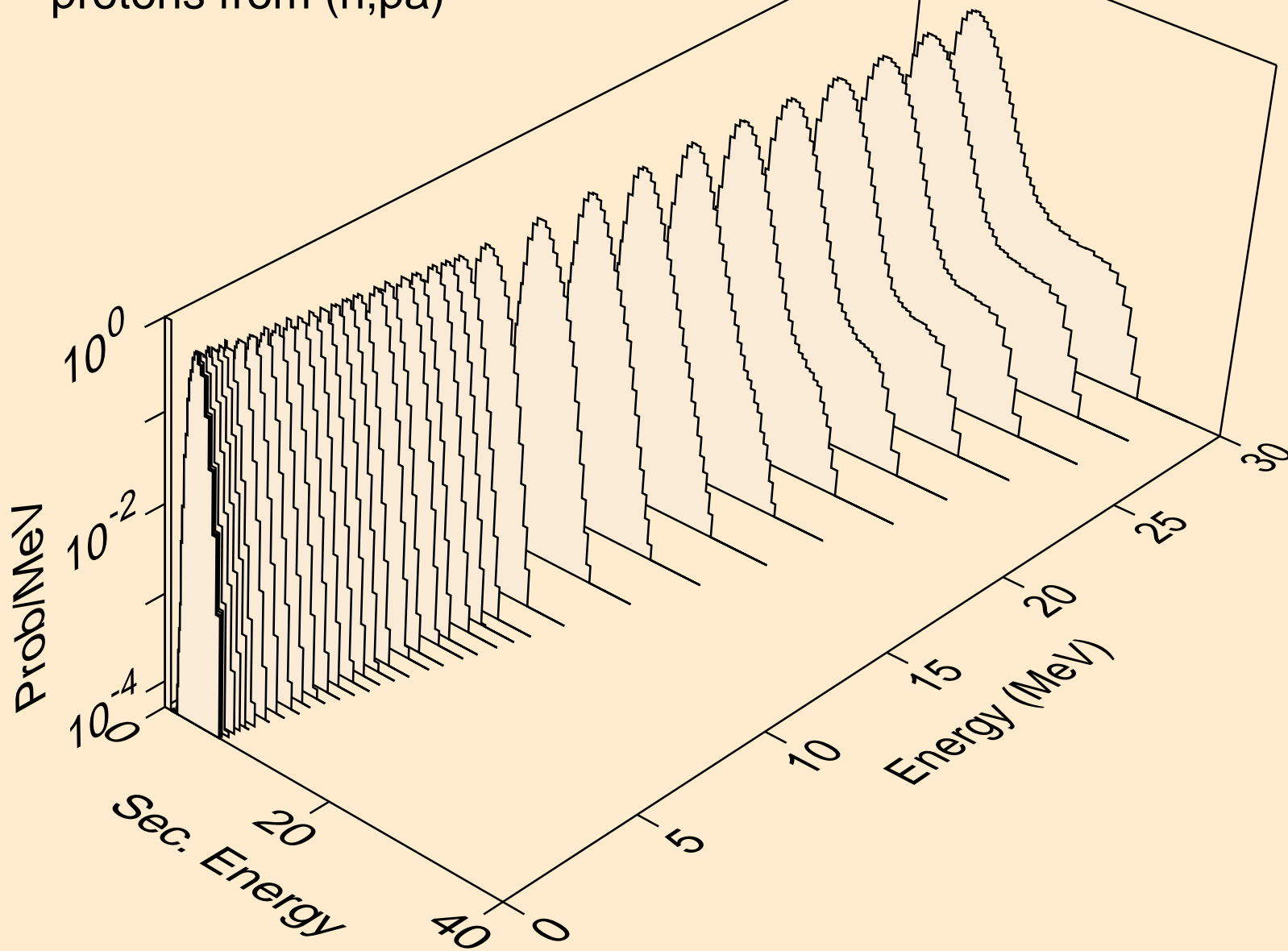
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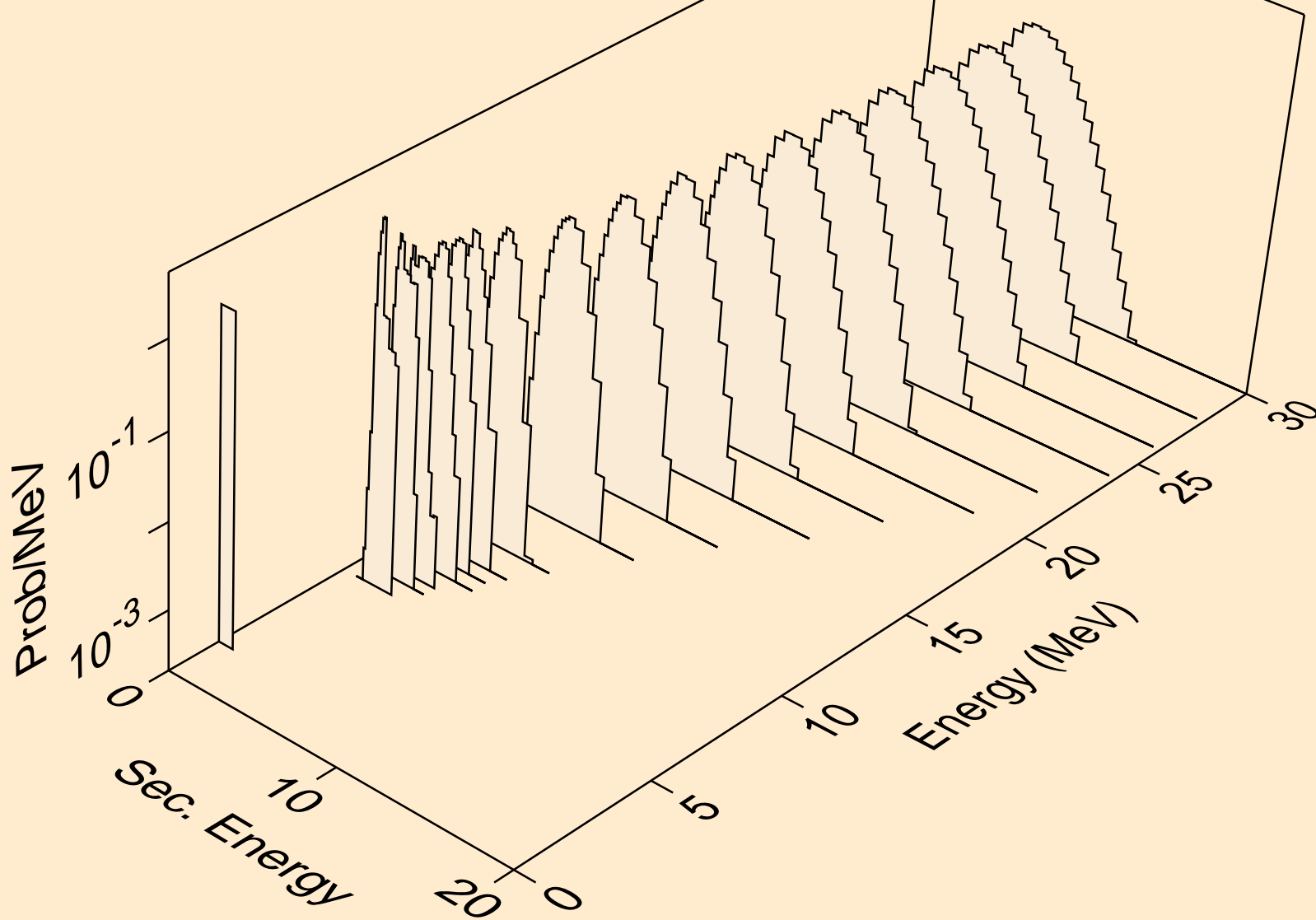
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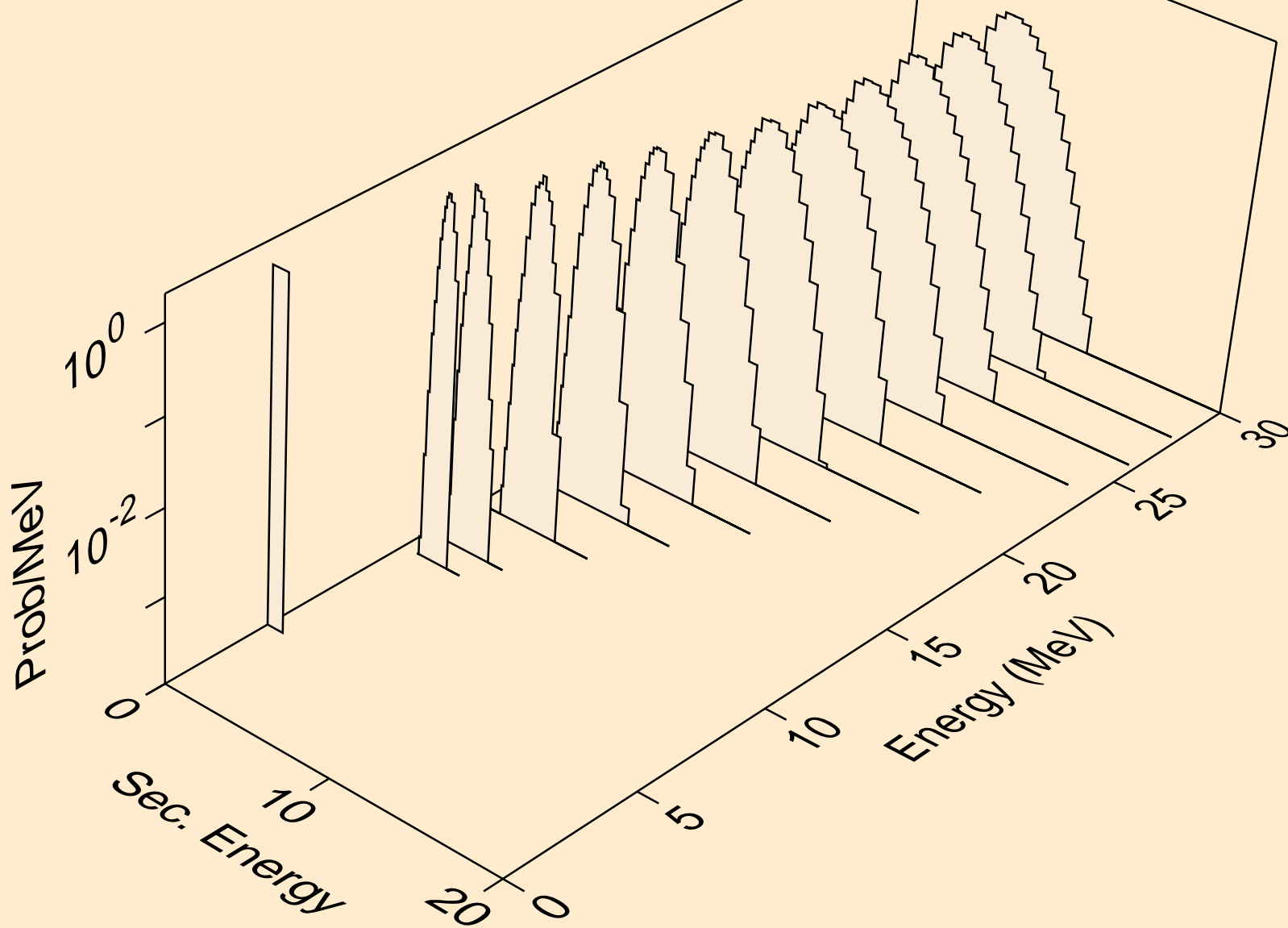
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protons from (n,p)



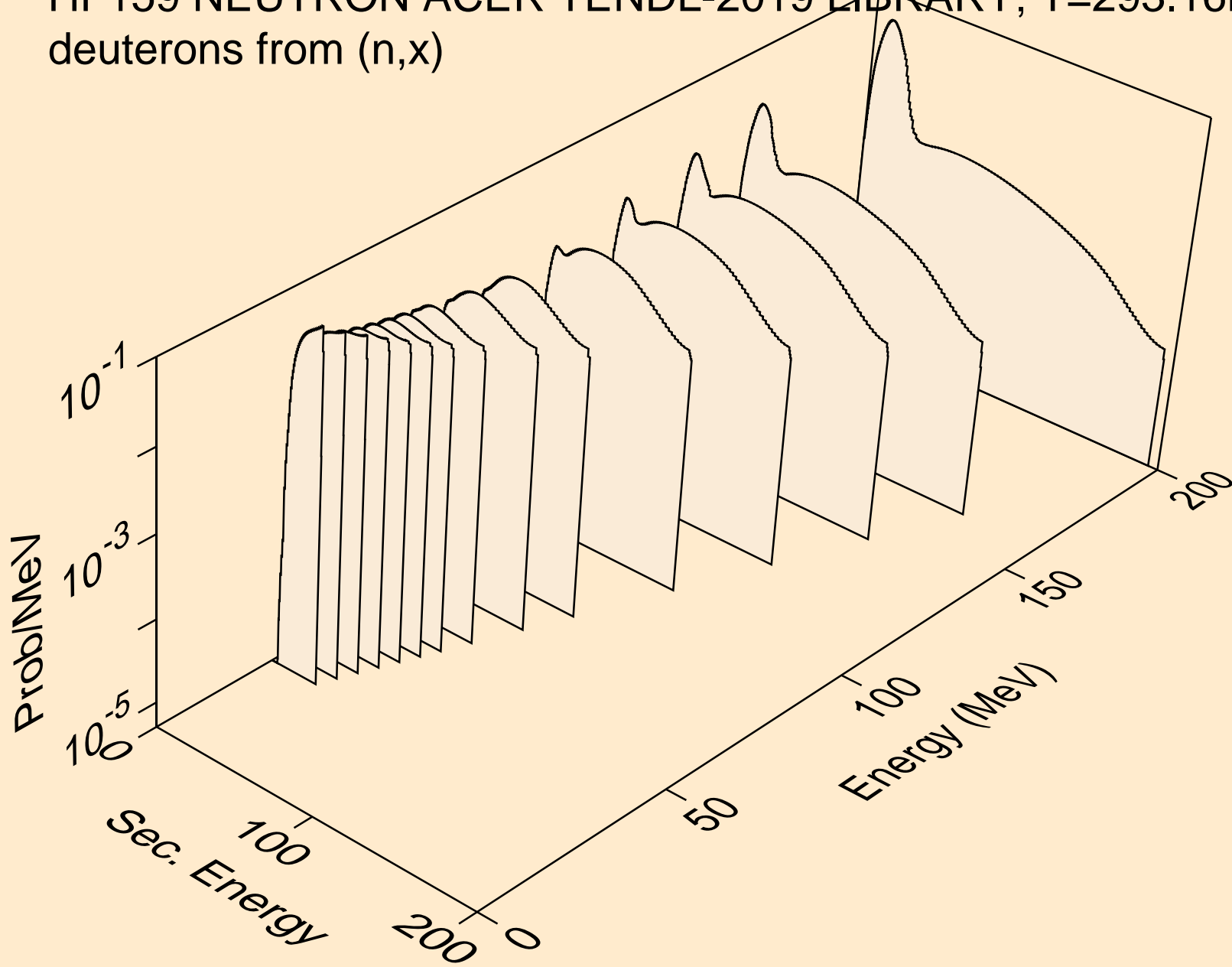
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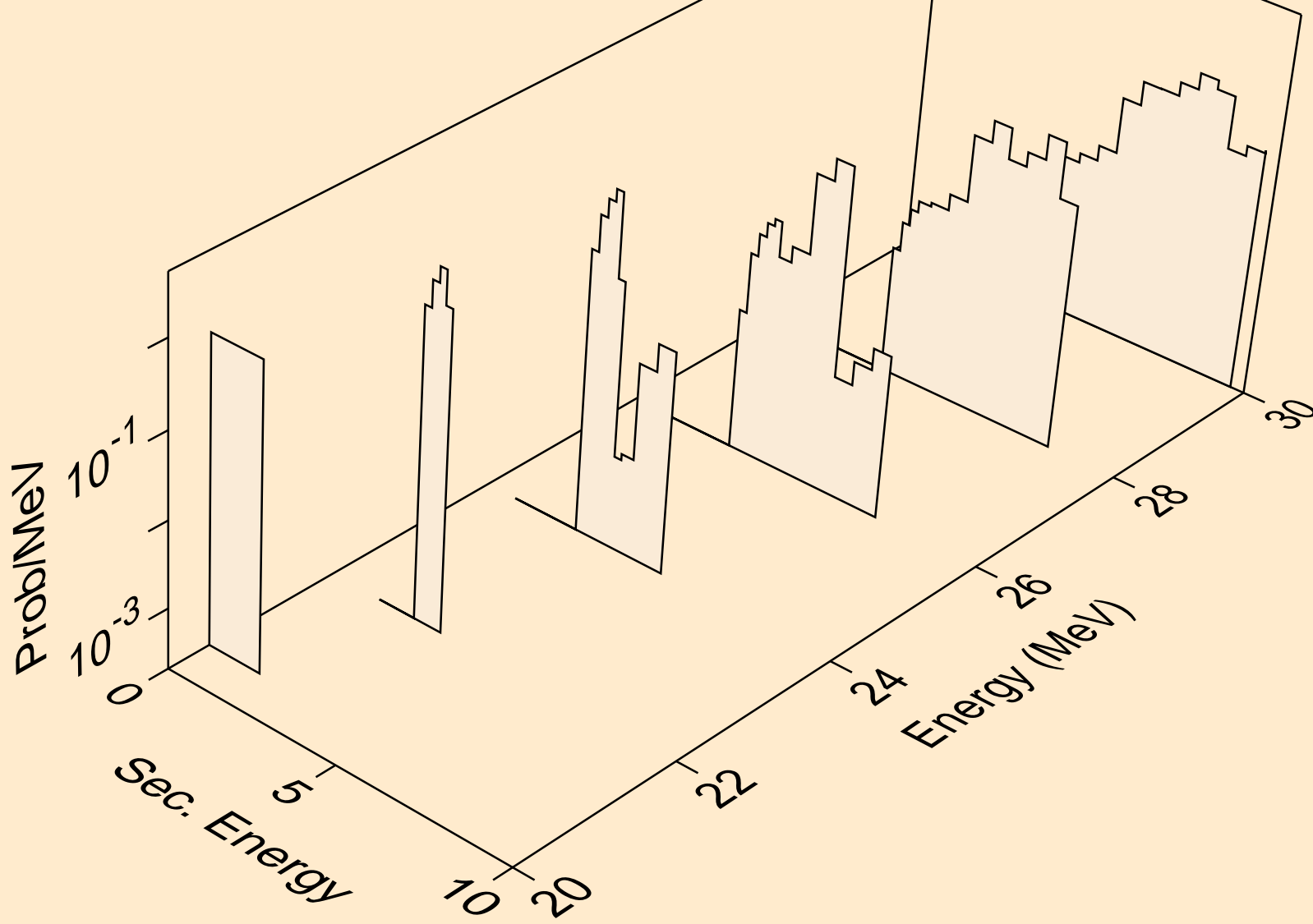
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protons from (n,pt)



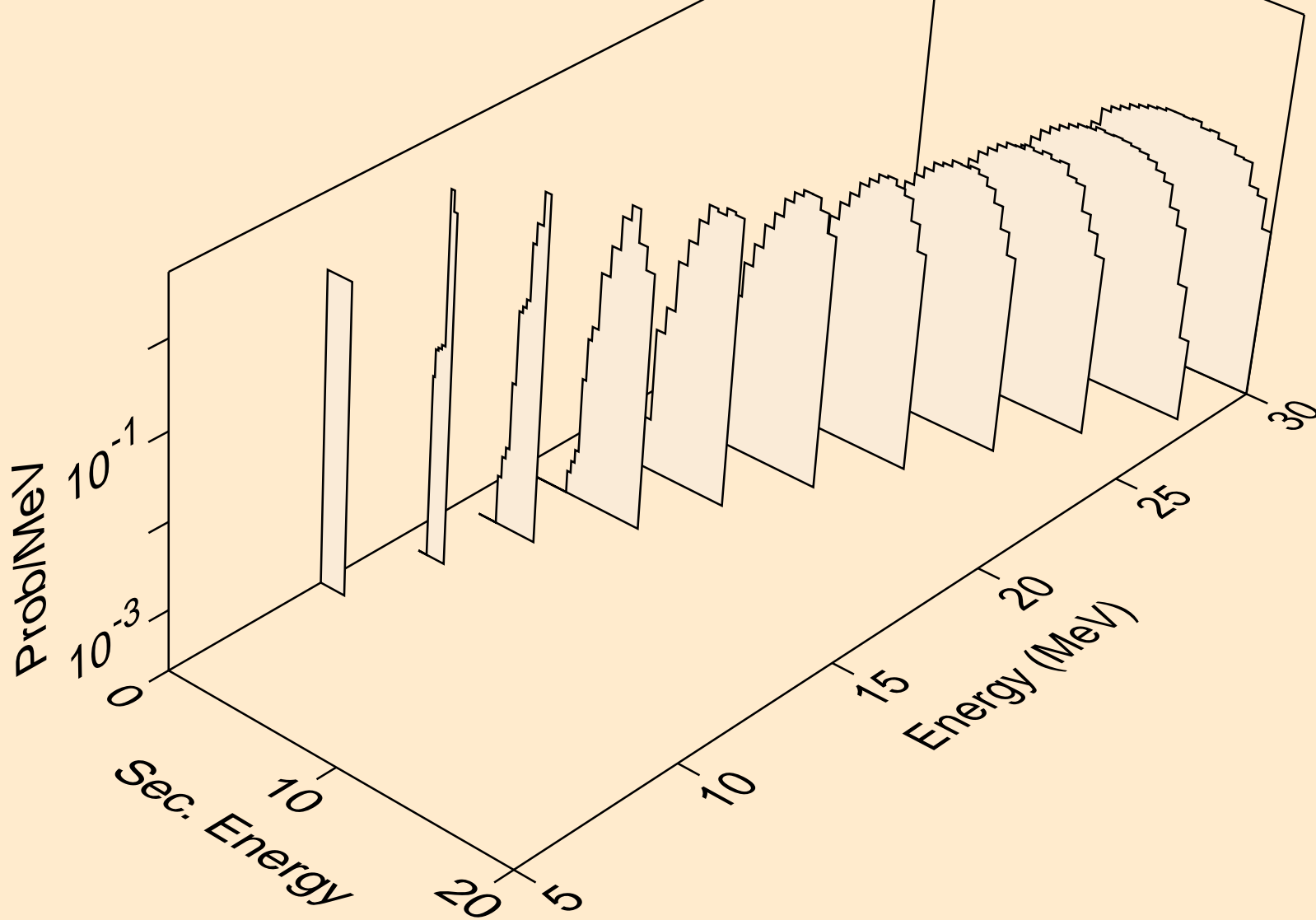
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deuterons from (n,x)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
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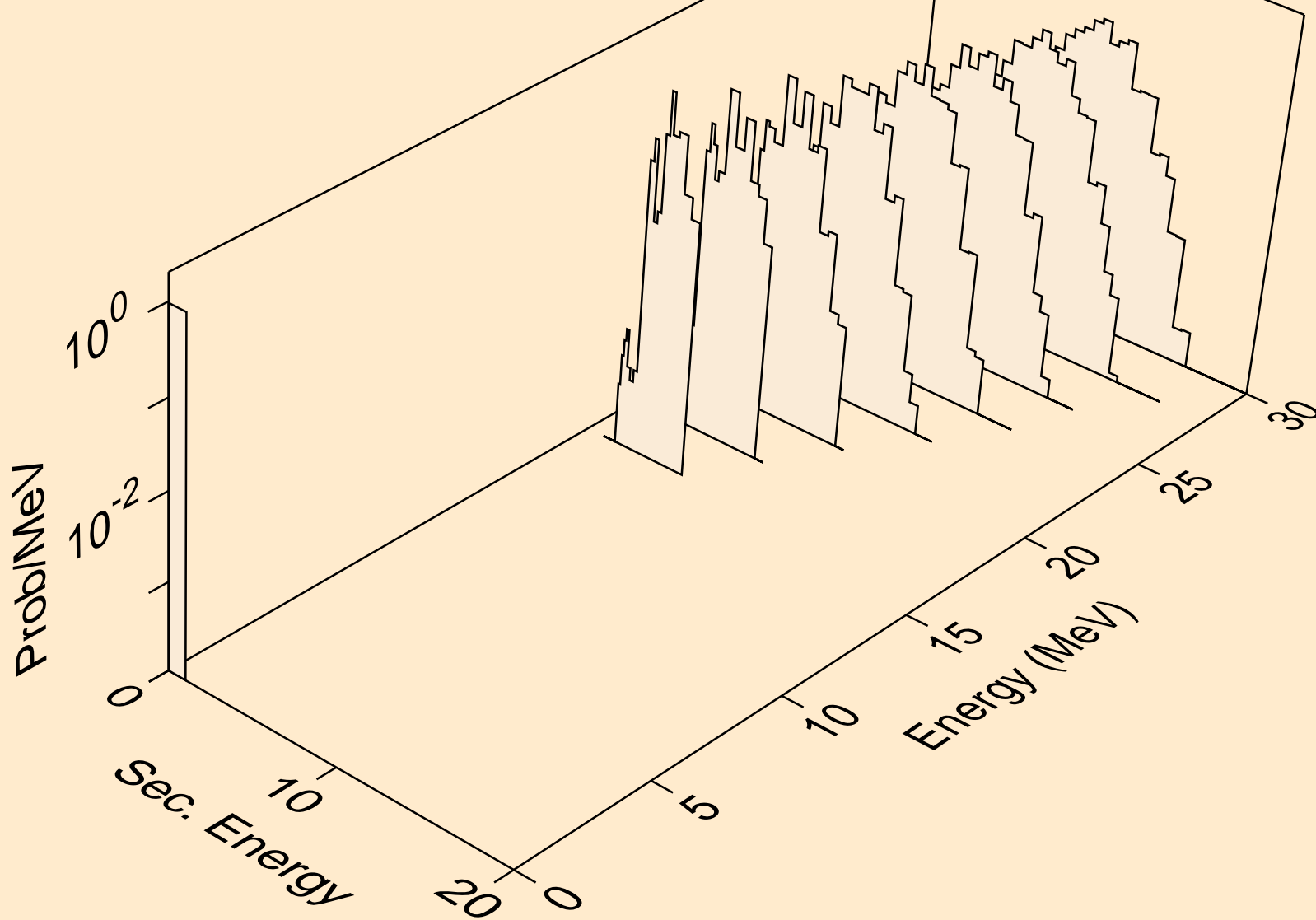


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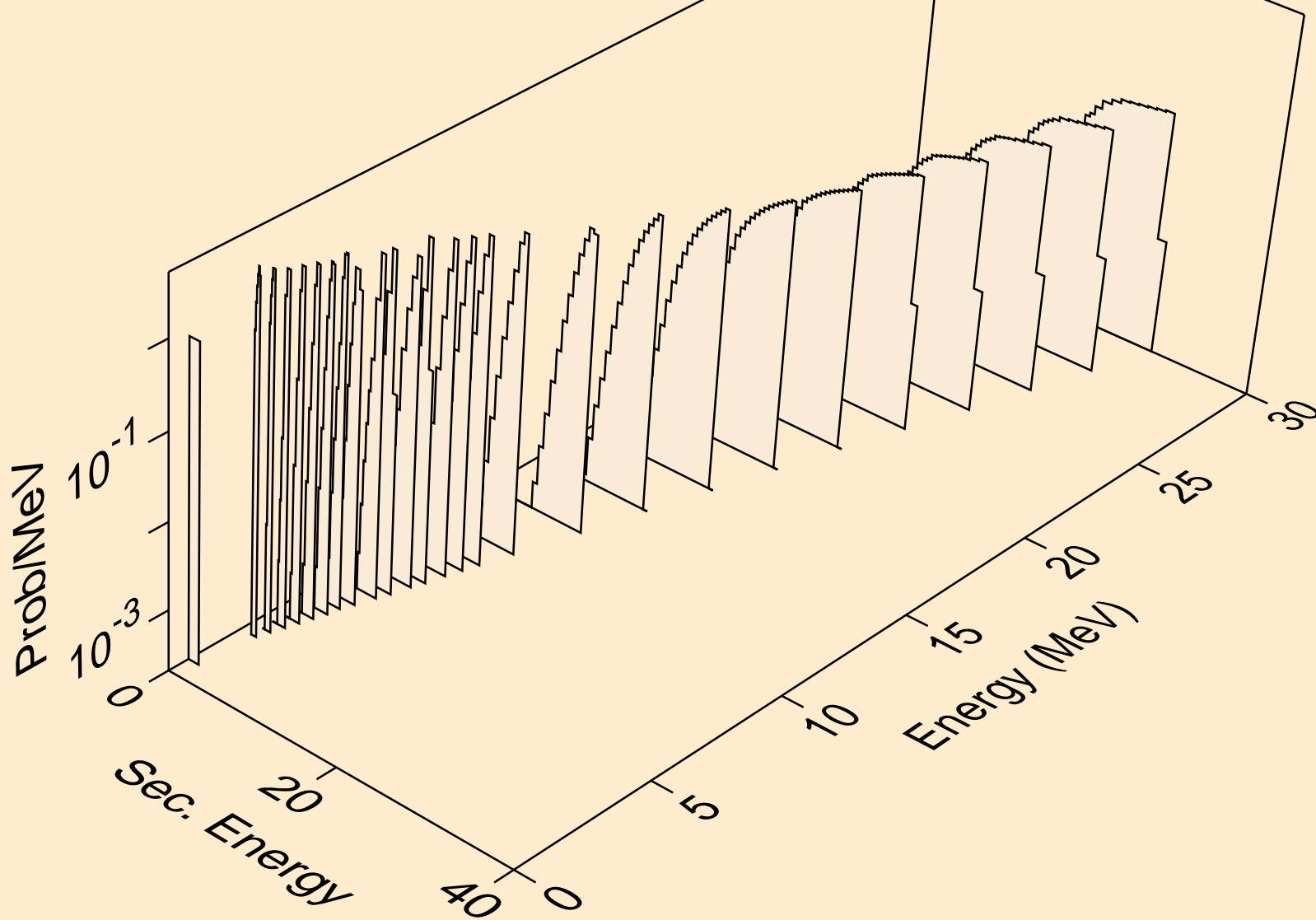




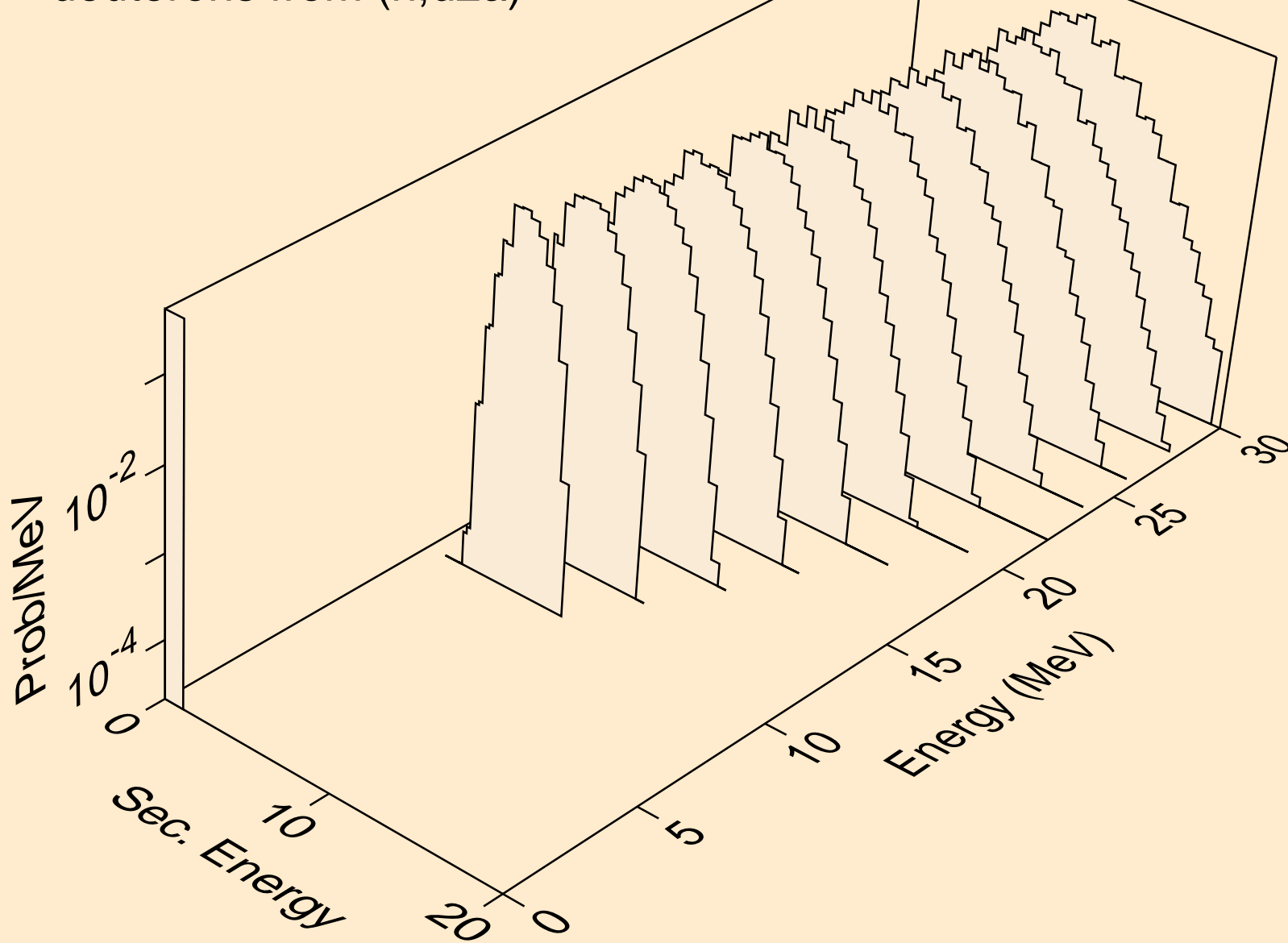
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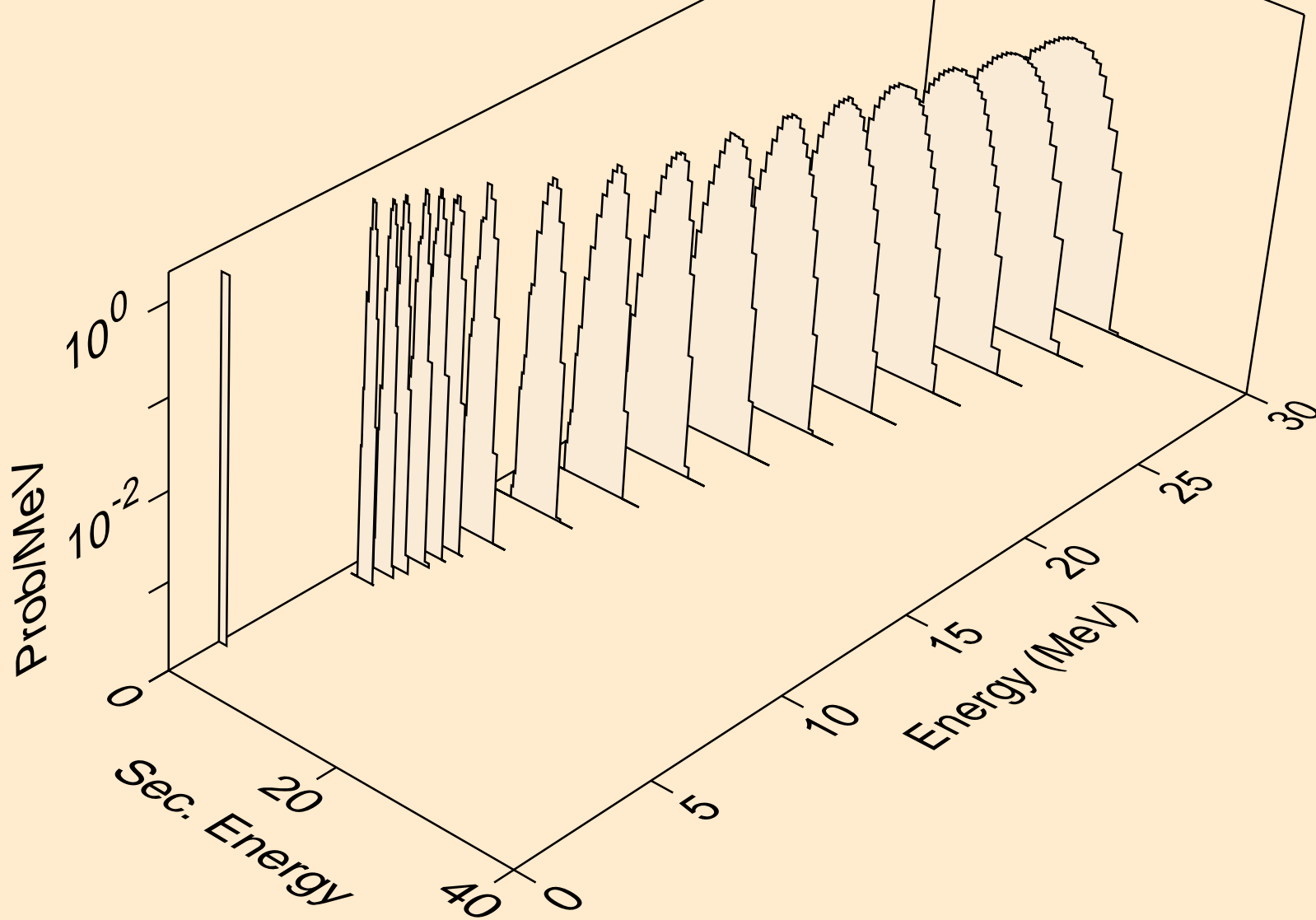
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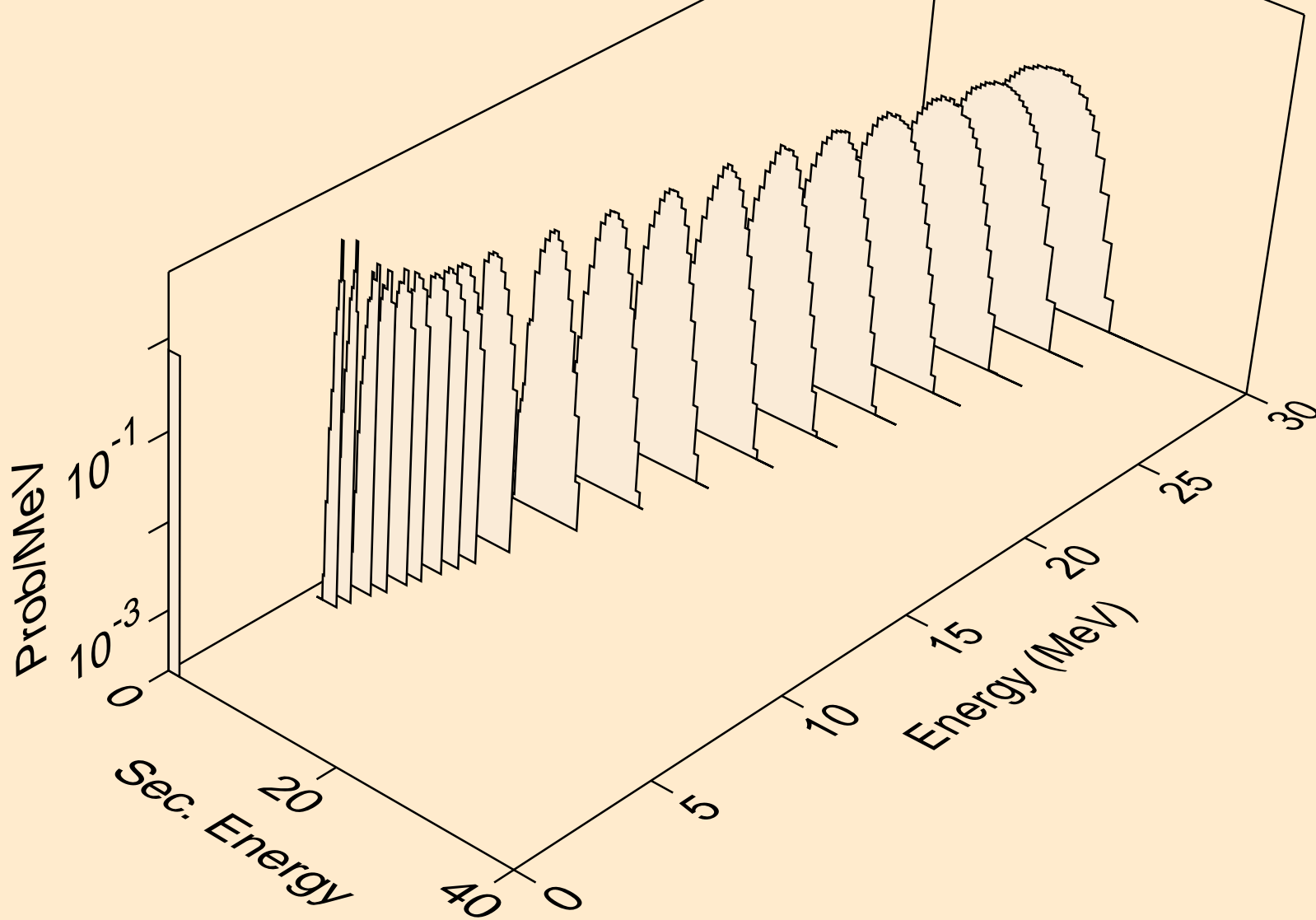
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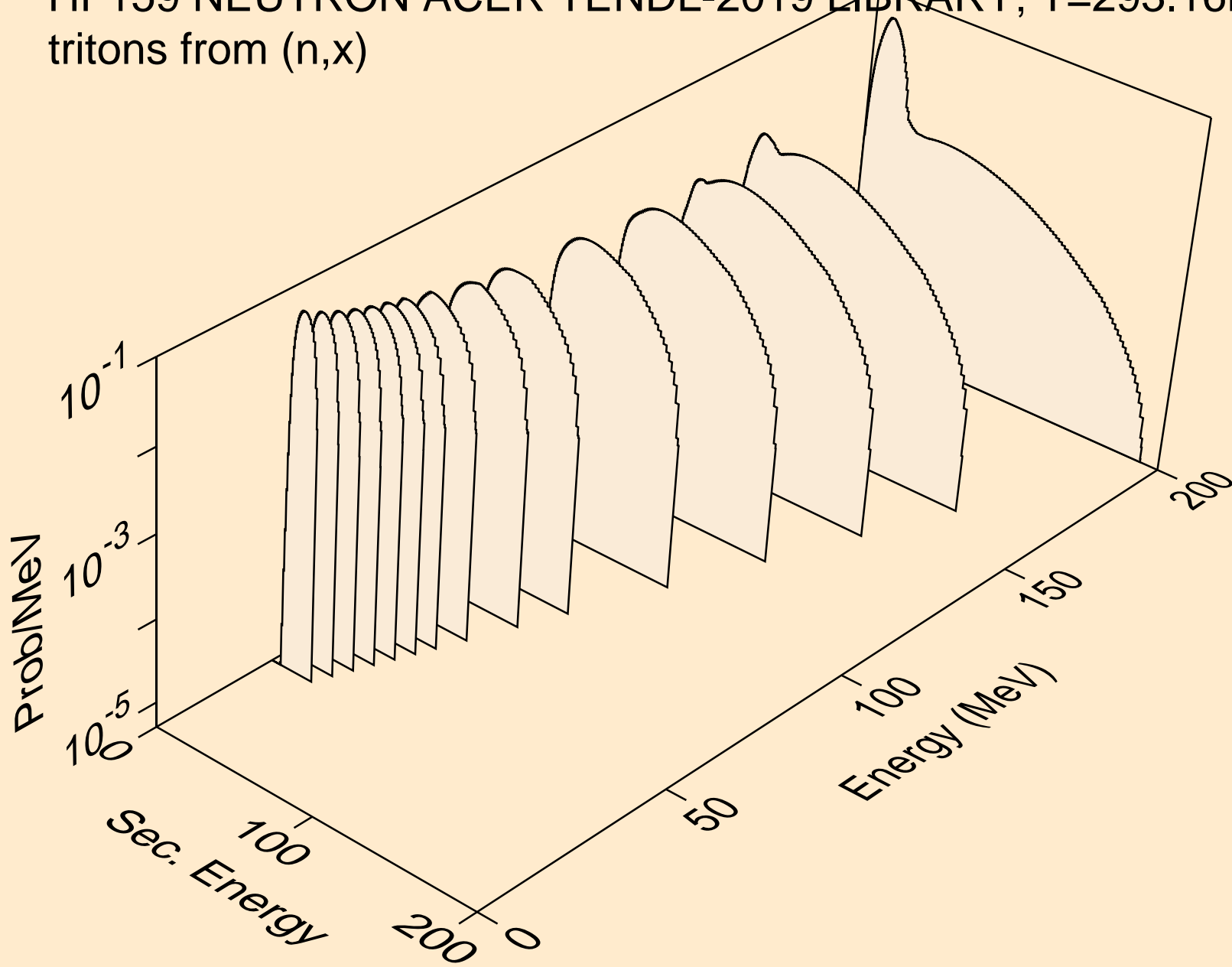
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deuterons from (n,pd)



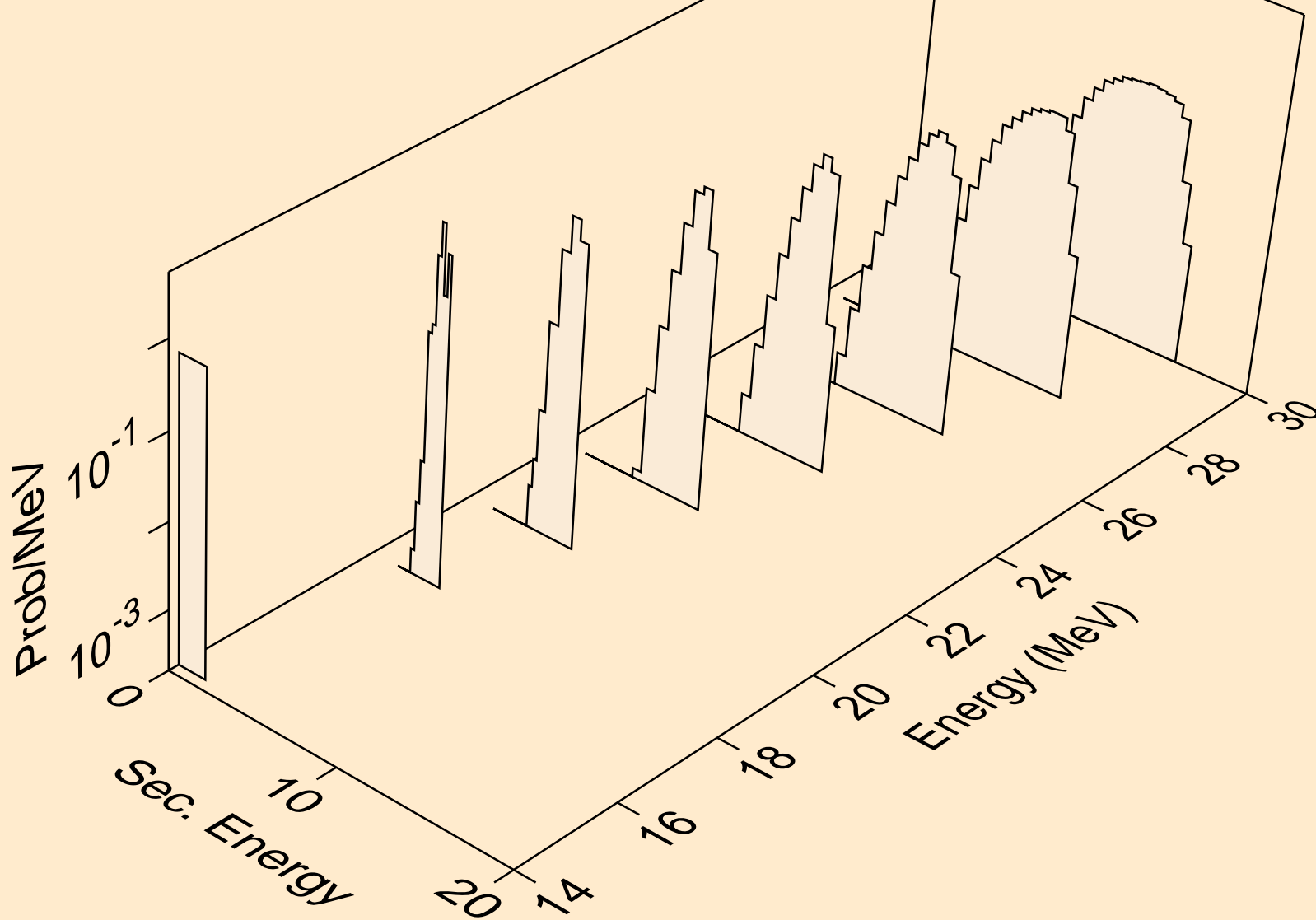
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deuterons from (n,da)



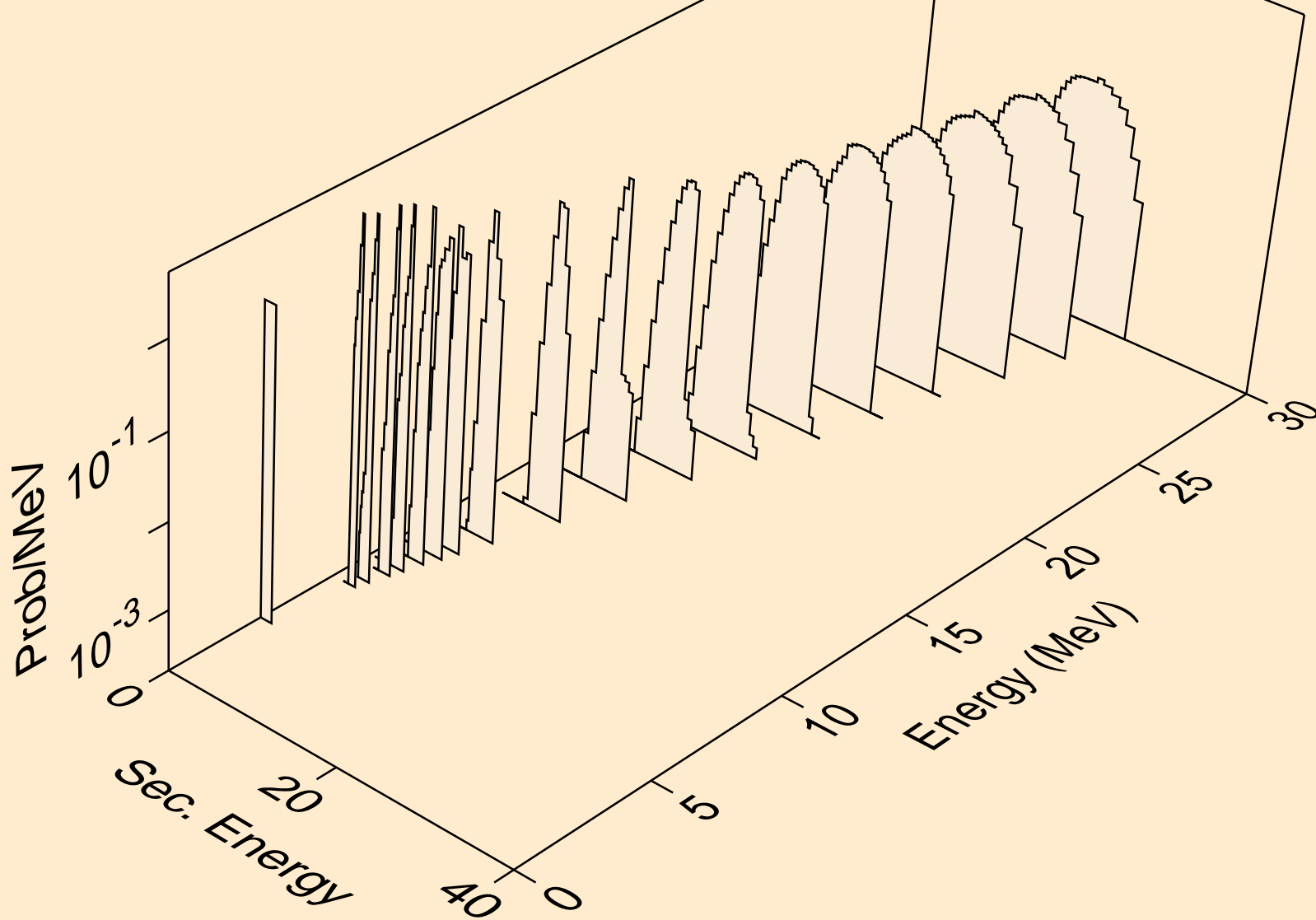
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
tritons from (n,x)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
tritons from (n,n\*)t

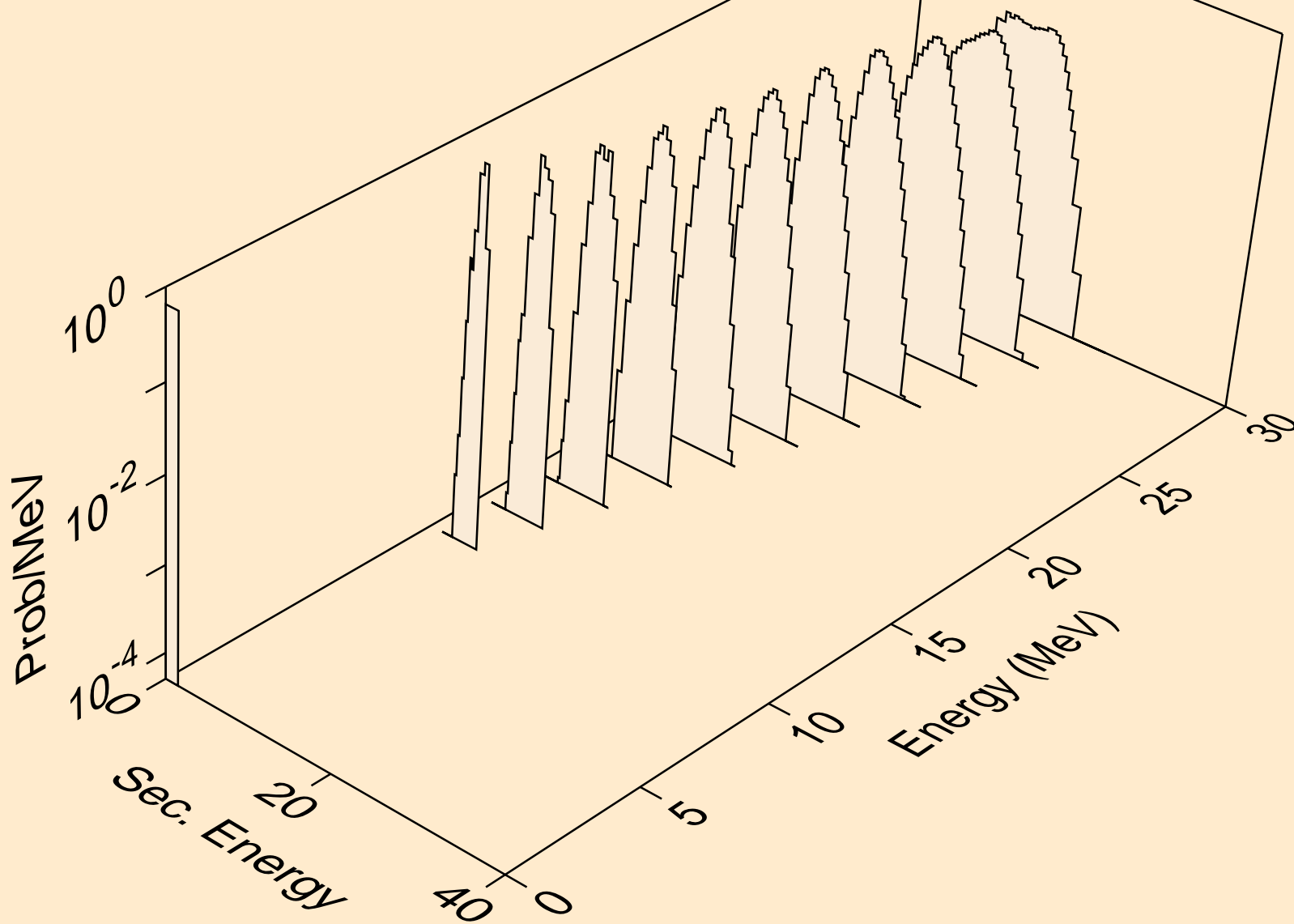


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tritons from (n,t)

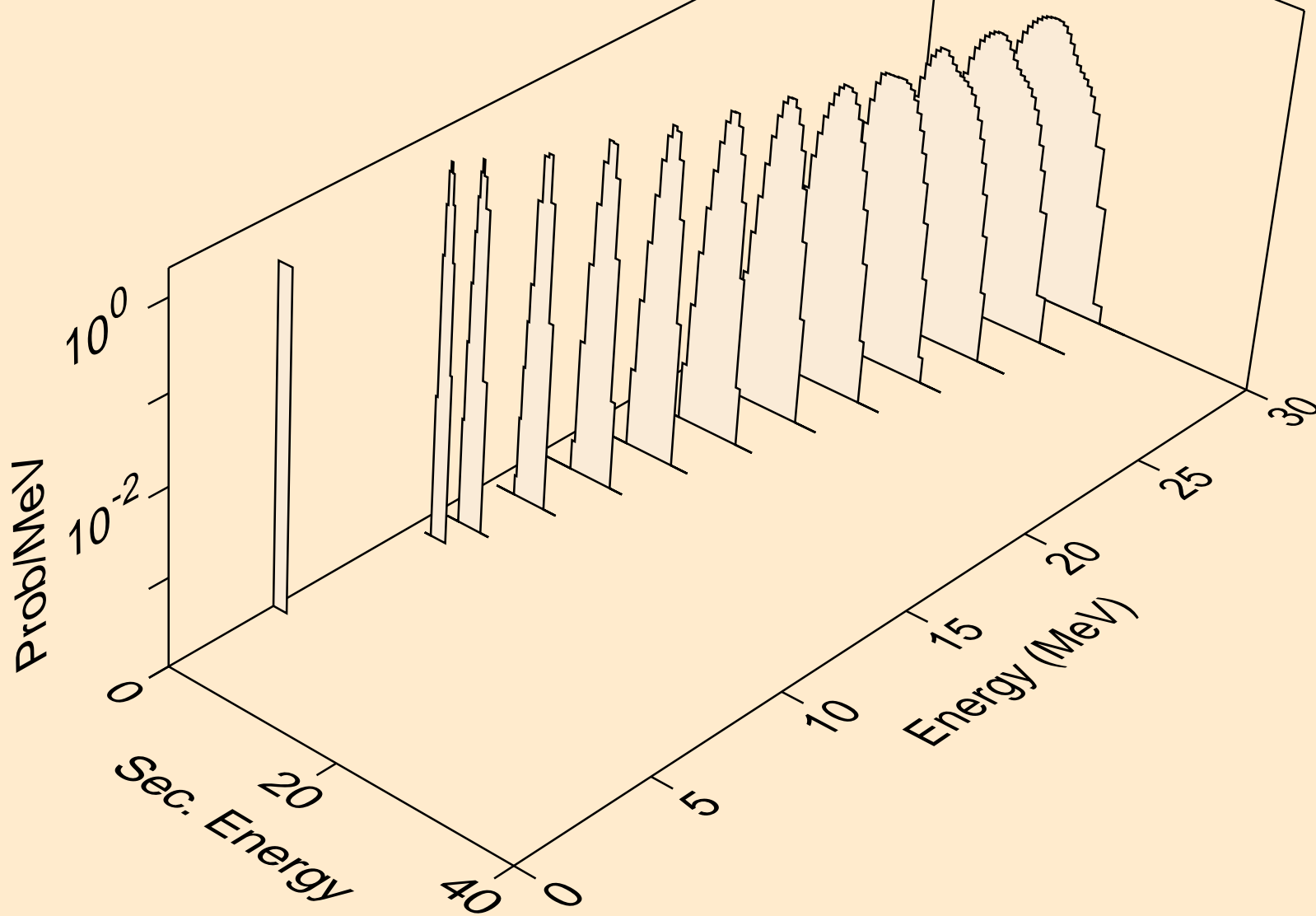




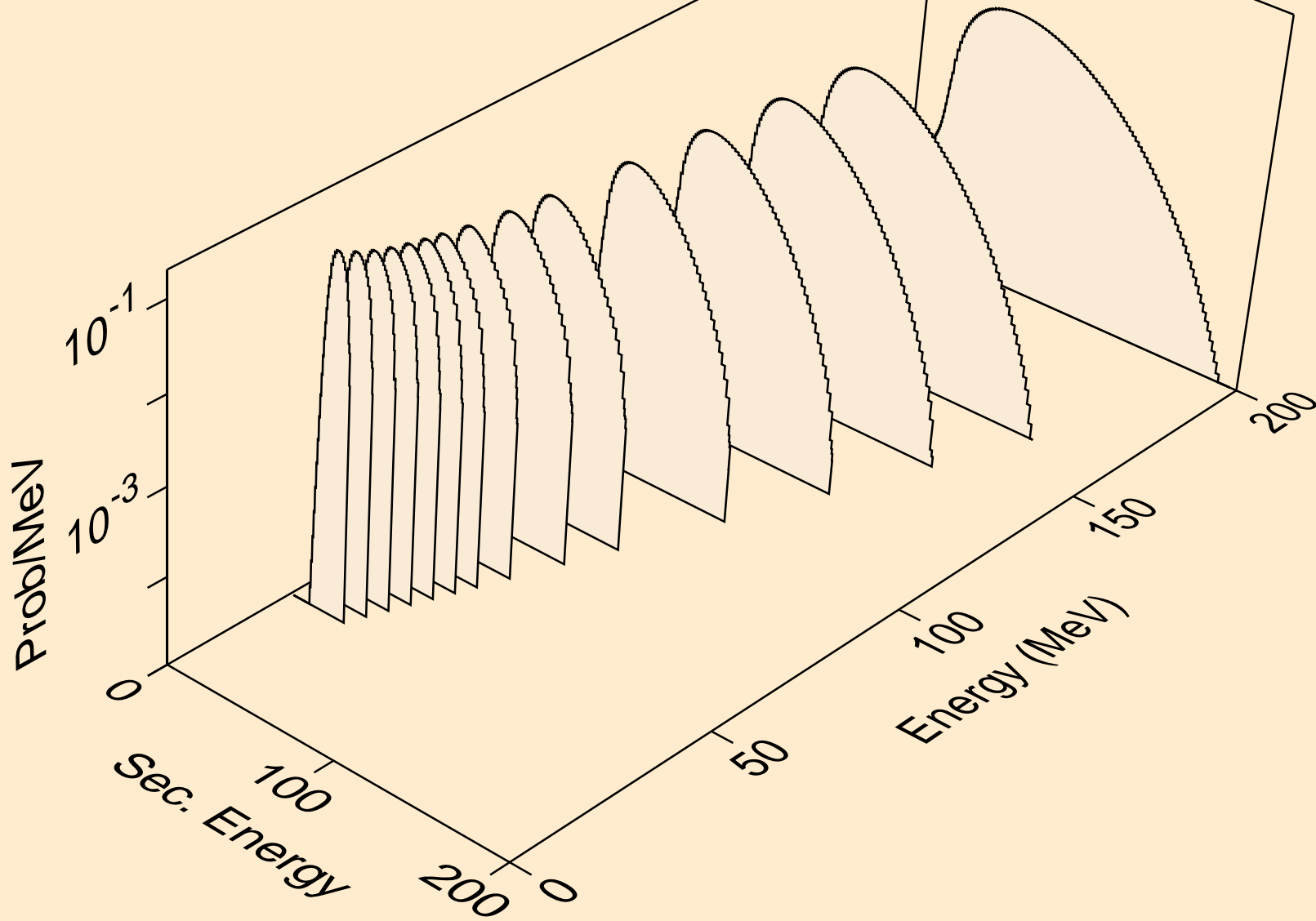
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tritons from (n,t2a)



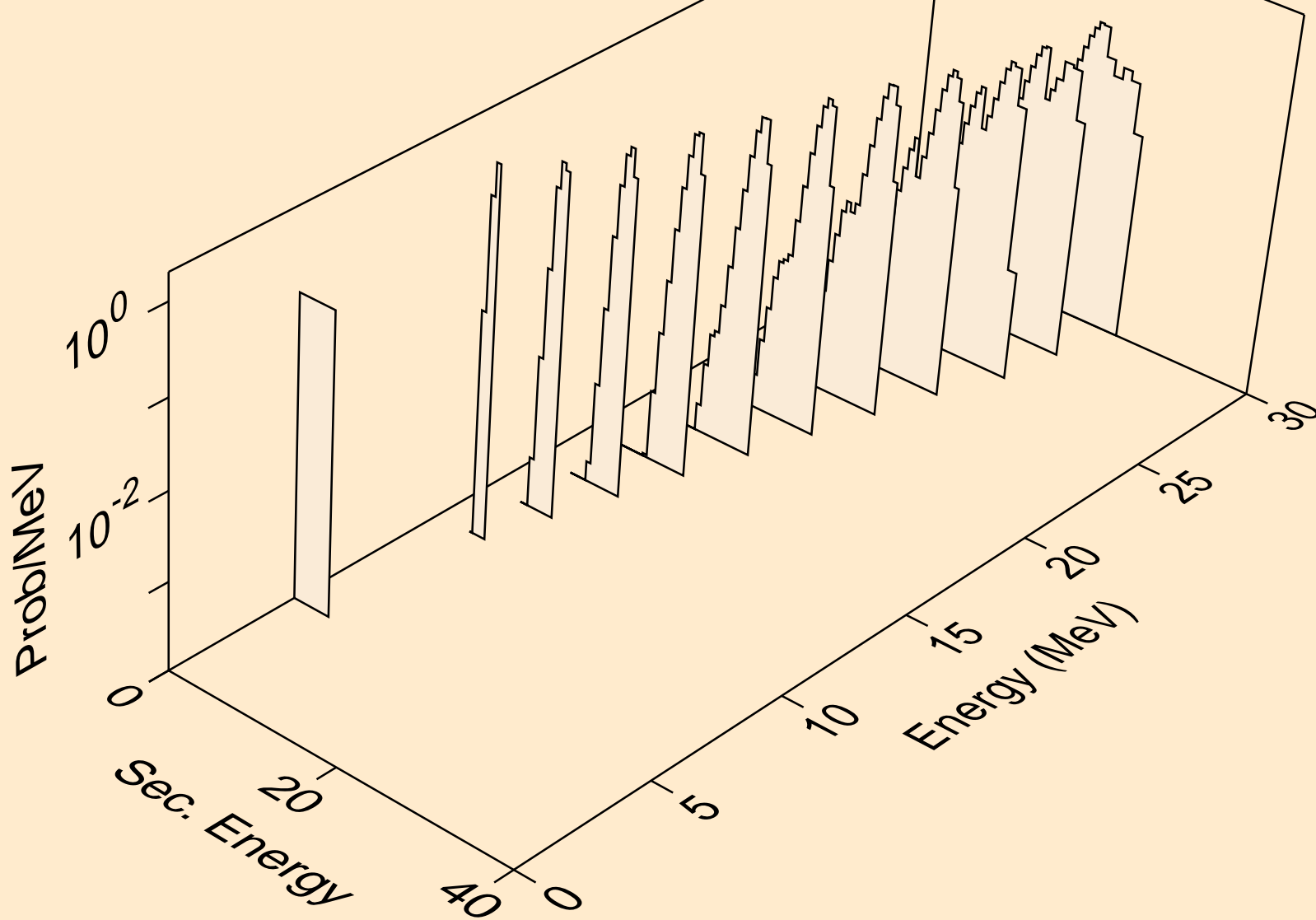
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tritons from (n,pt)



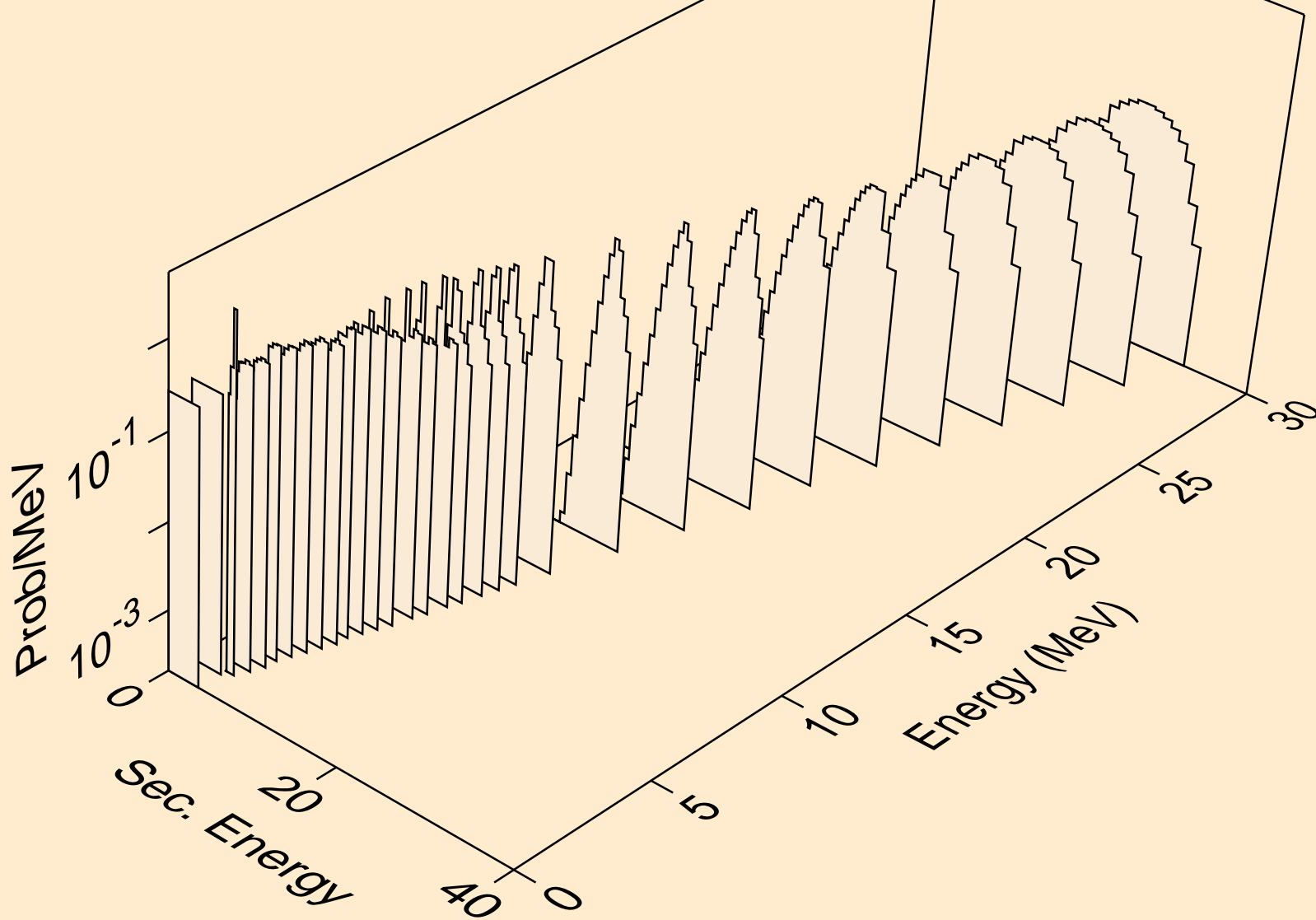
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he3s from (n,x)



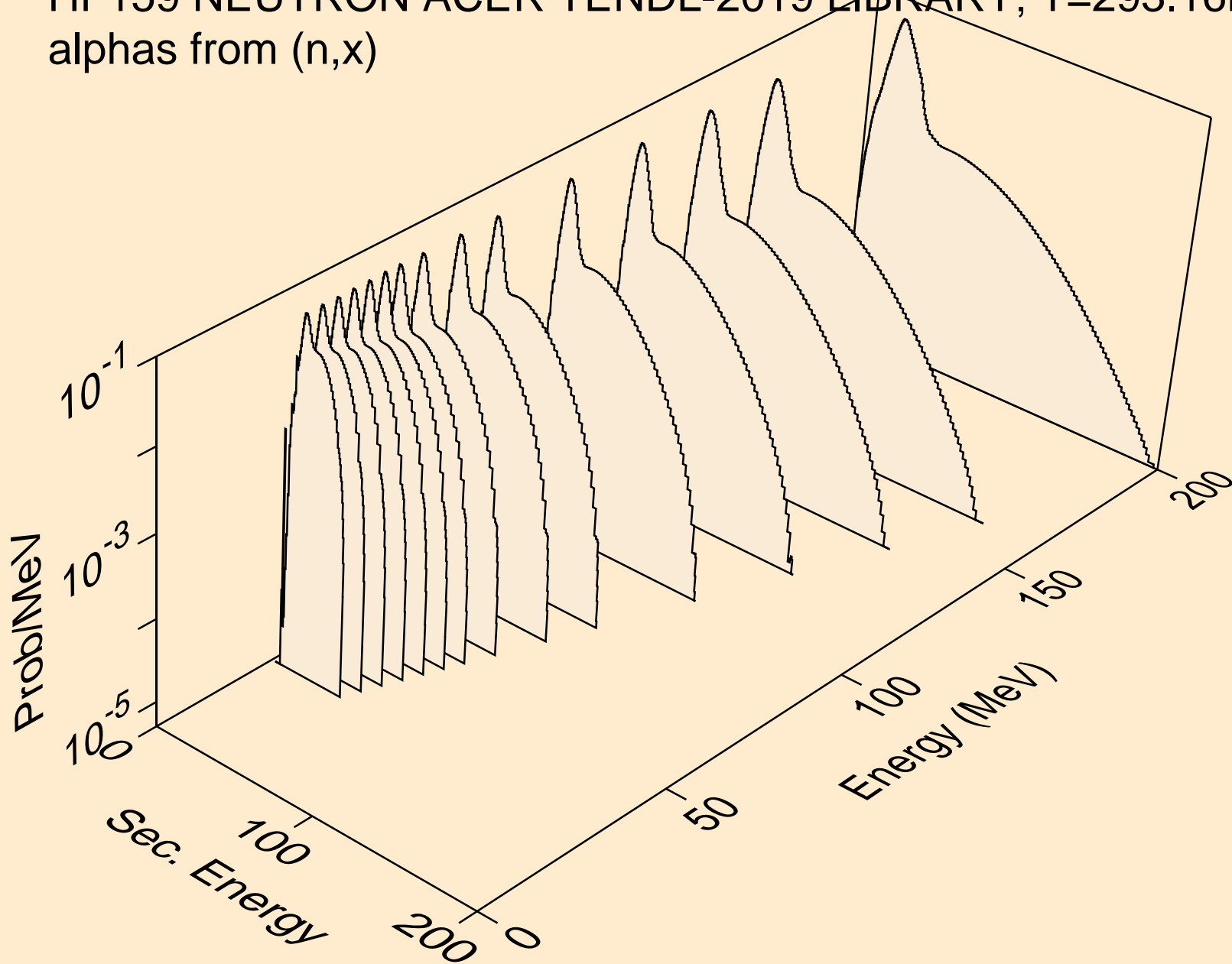
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he3s from (n,n\*)he3



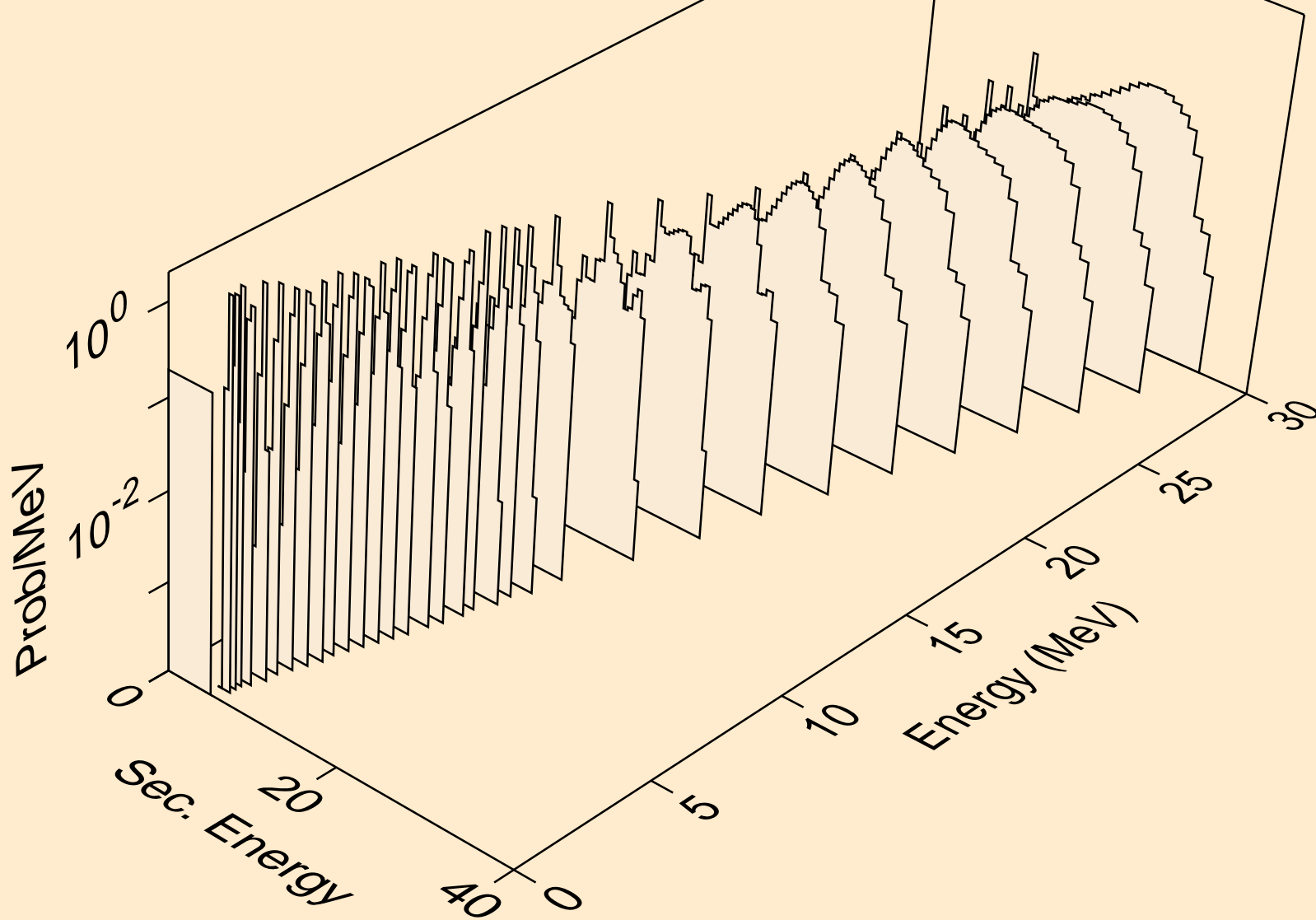
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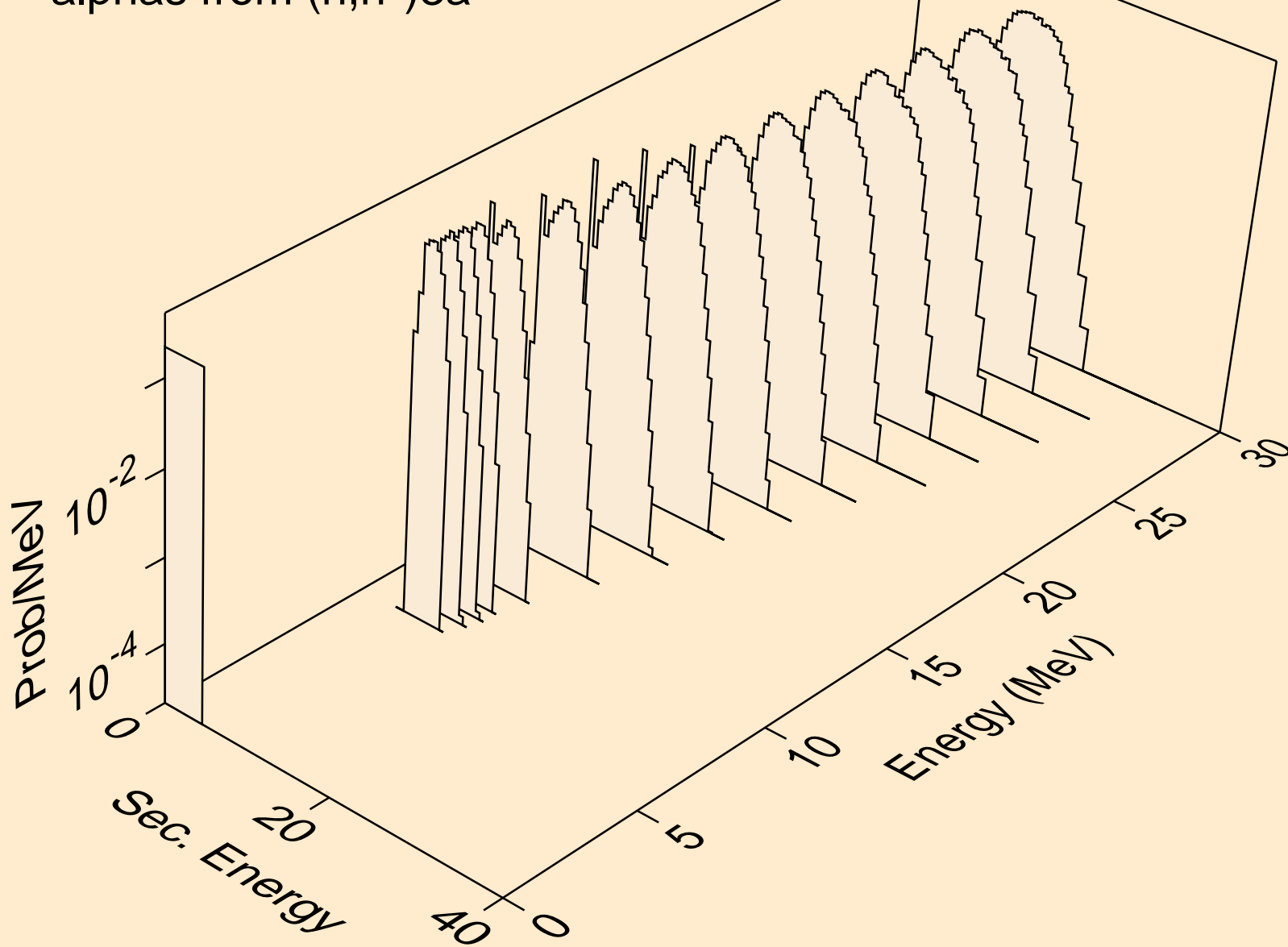
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alphas from (n,x)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,n\*)a

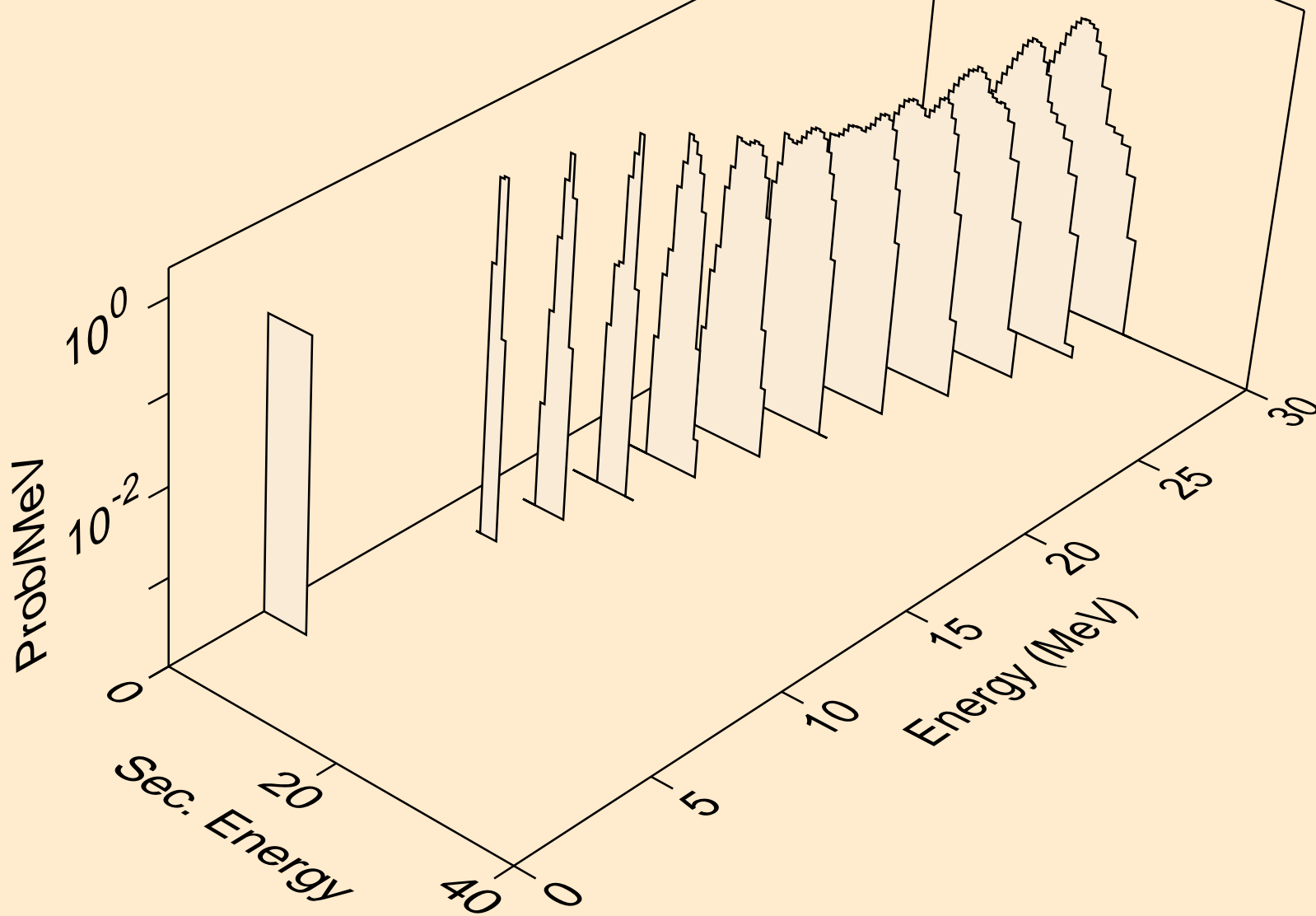


HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,n\*)3a

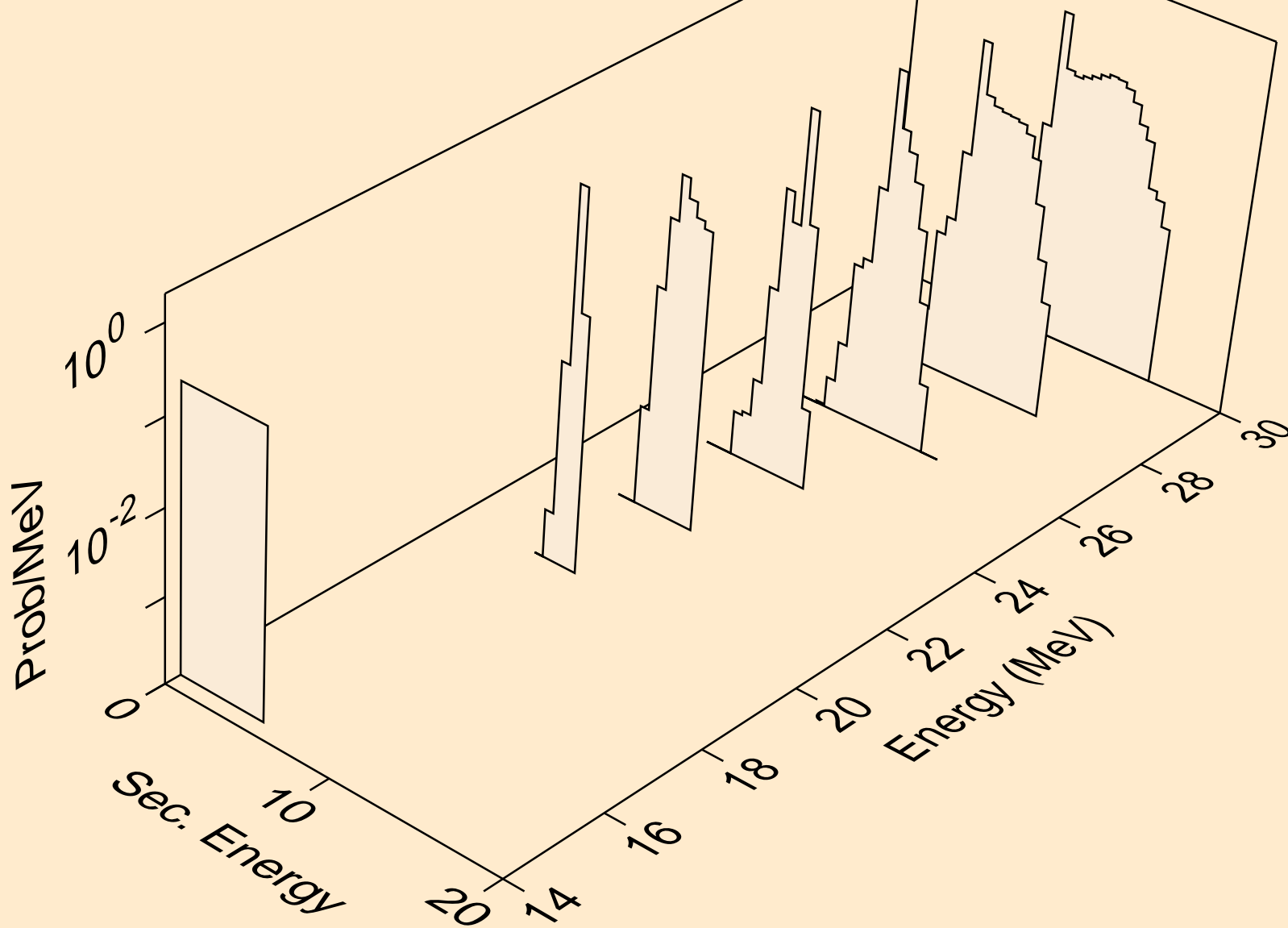




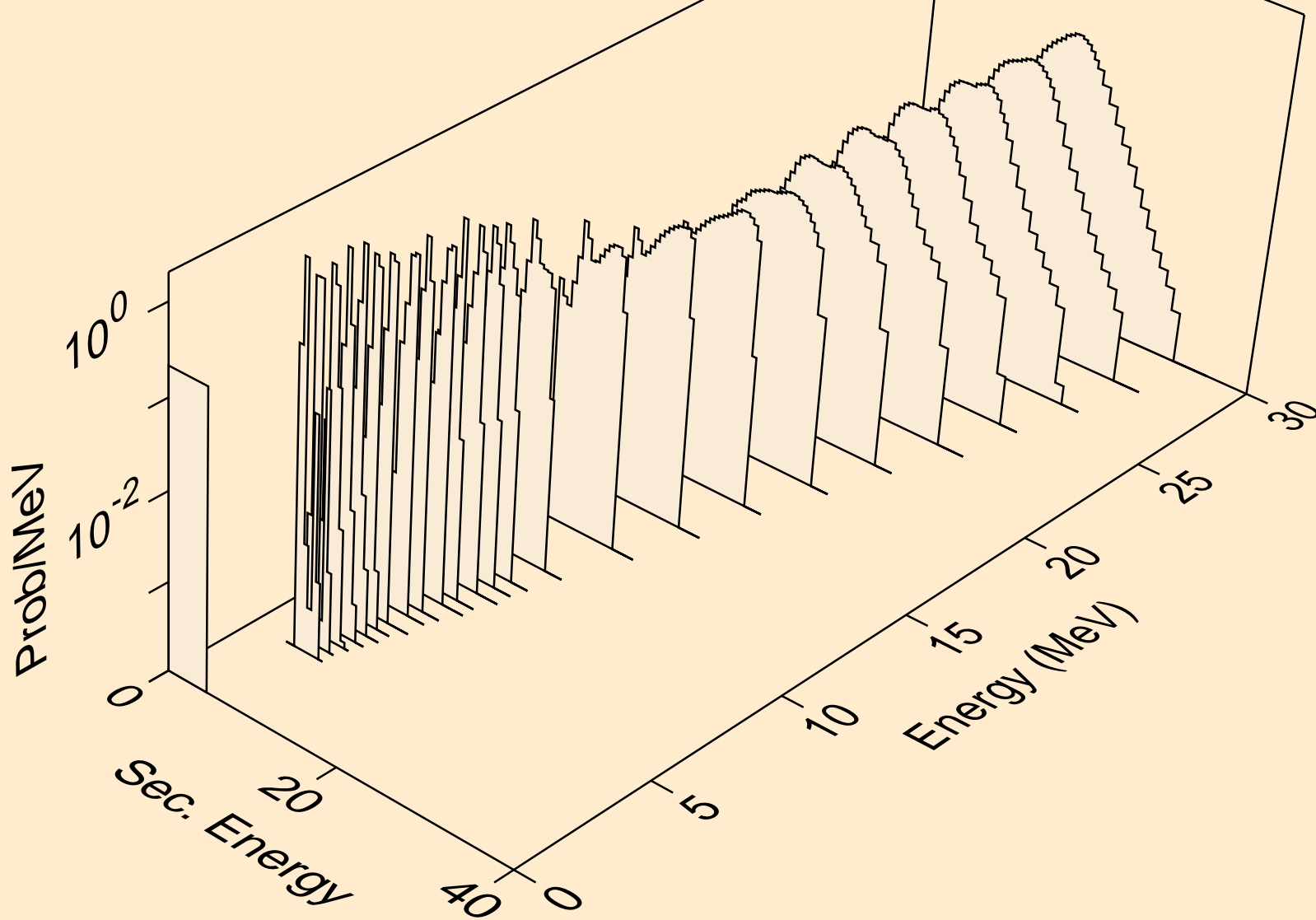
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alphas from (n,2n)a



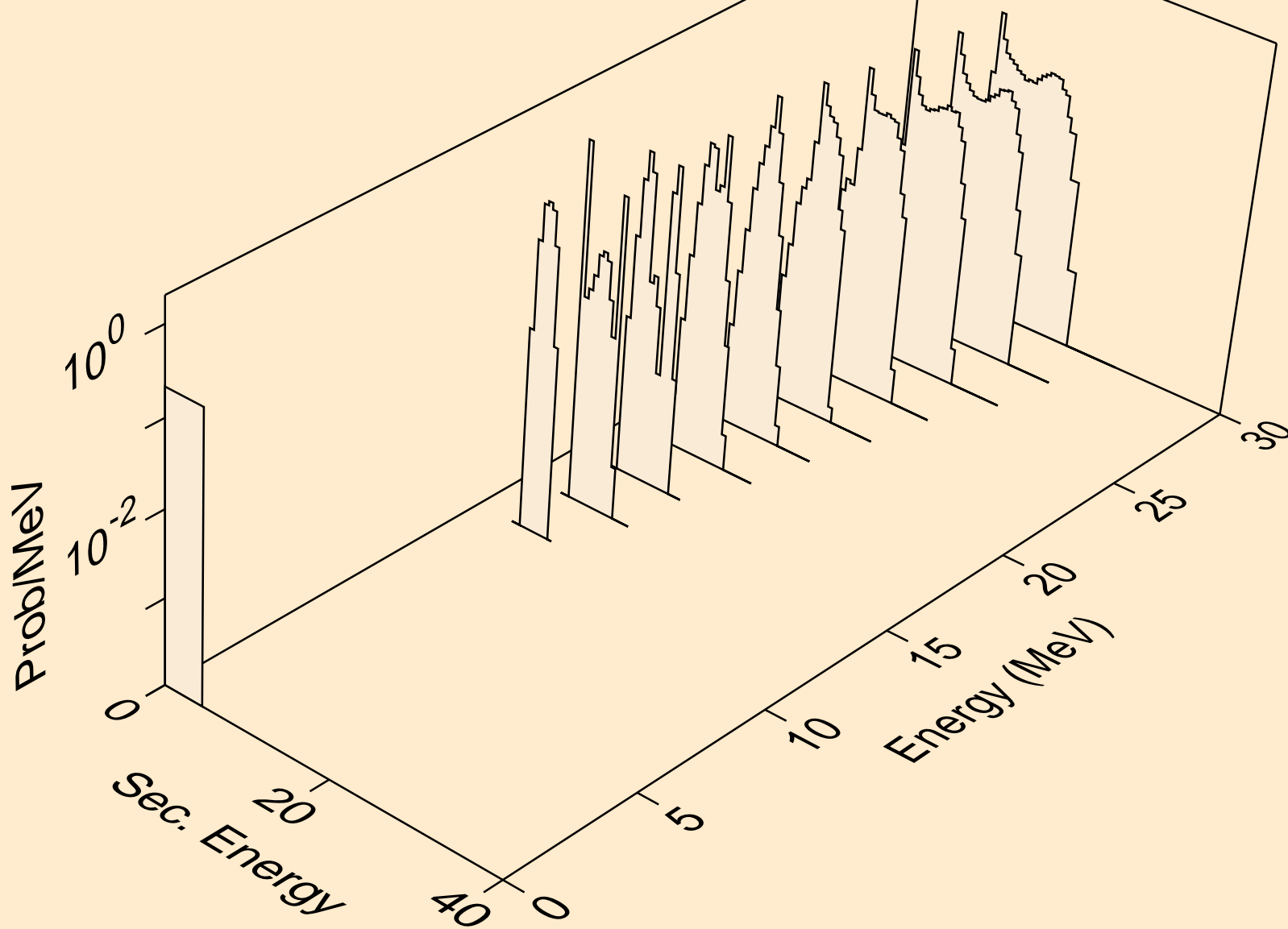
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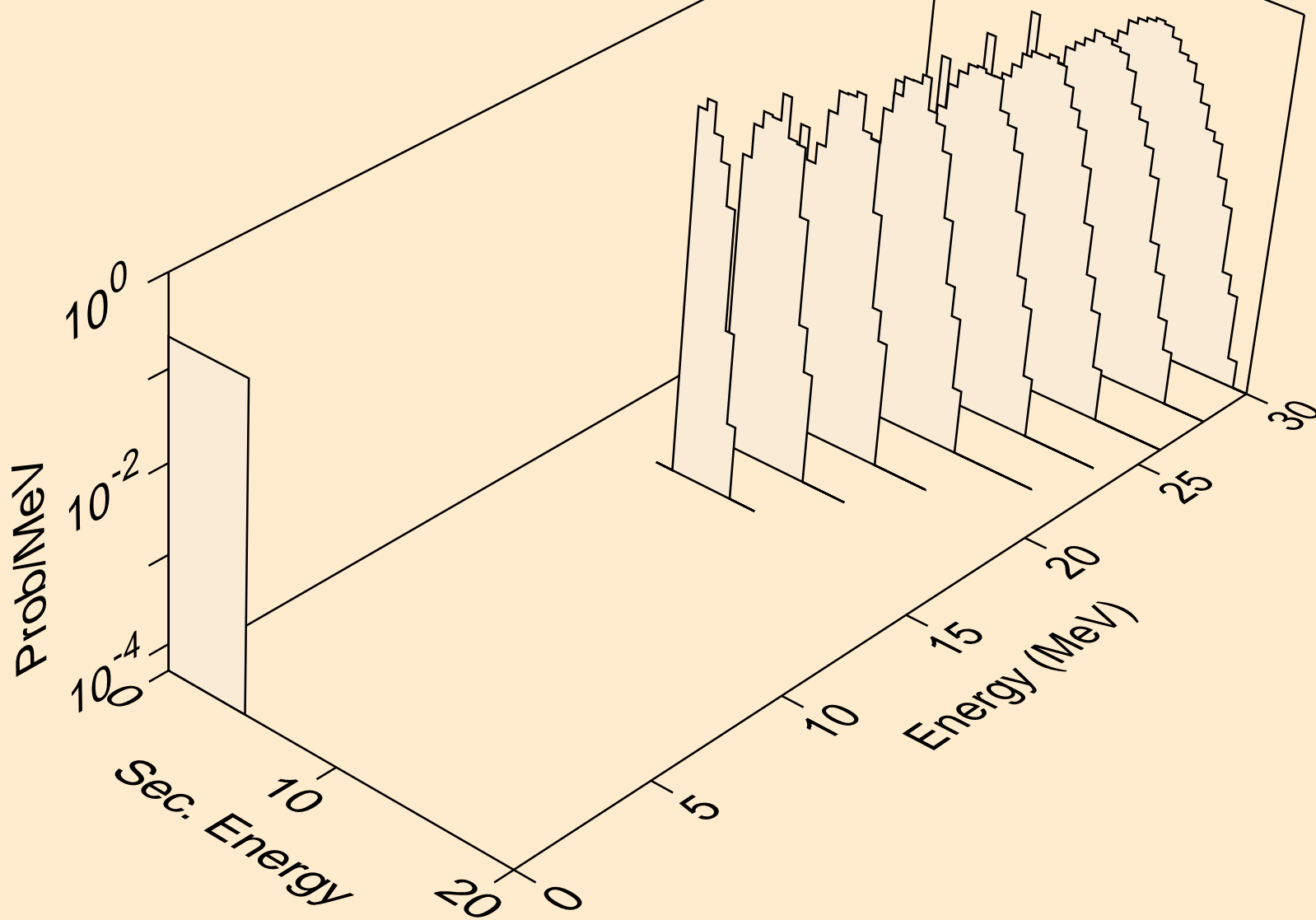
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alphas from (n,n\*)2a



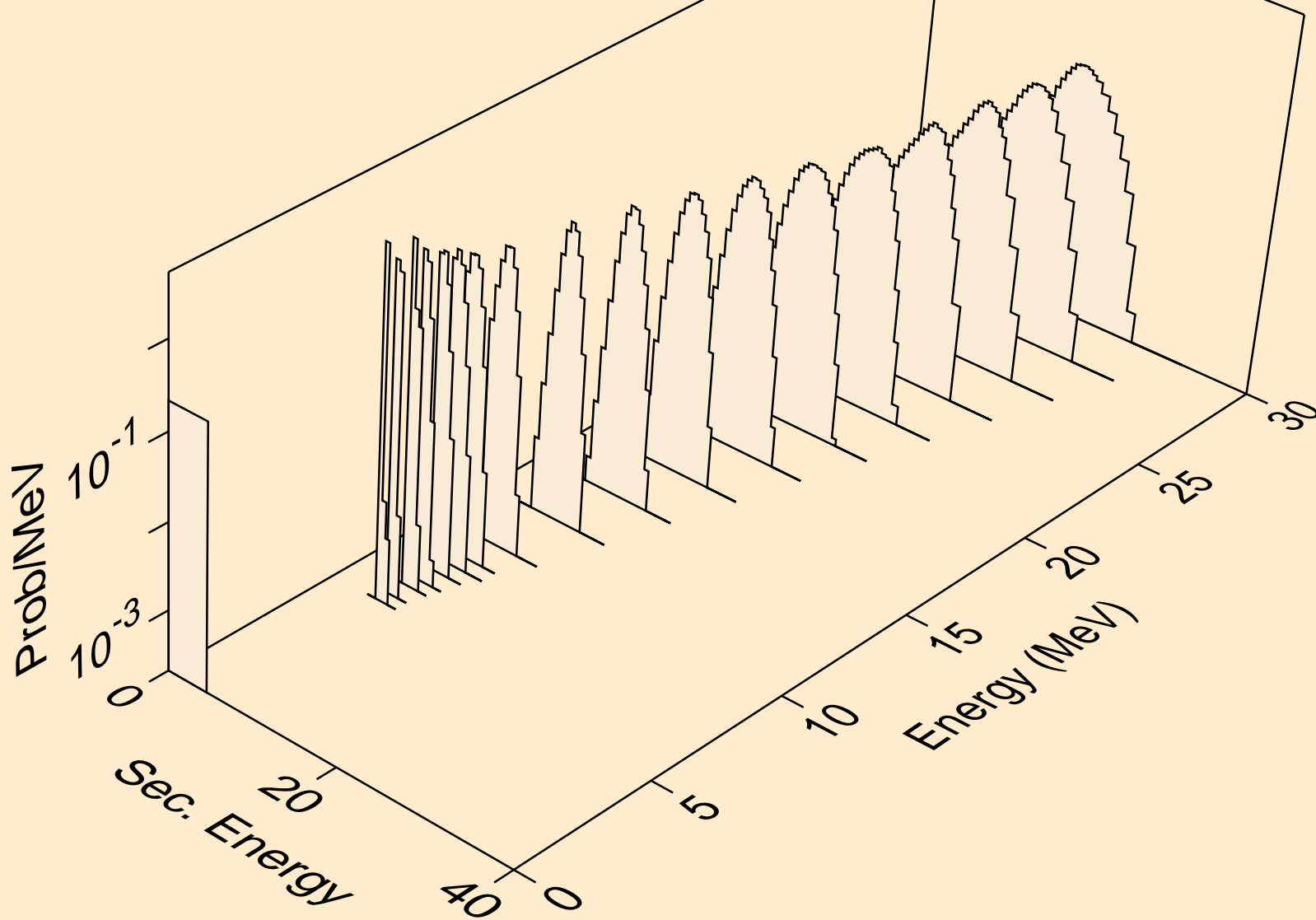
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alphas from (n,2n)2a



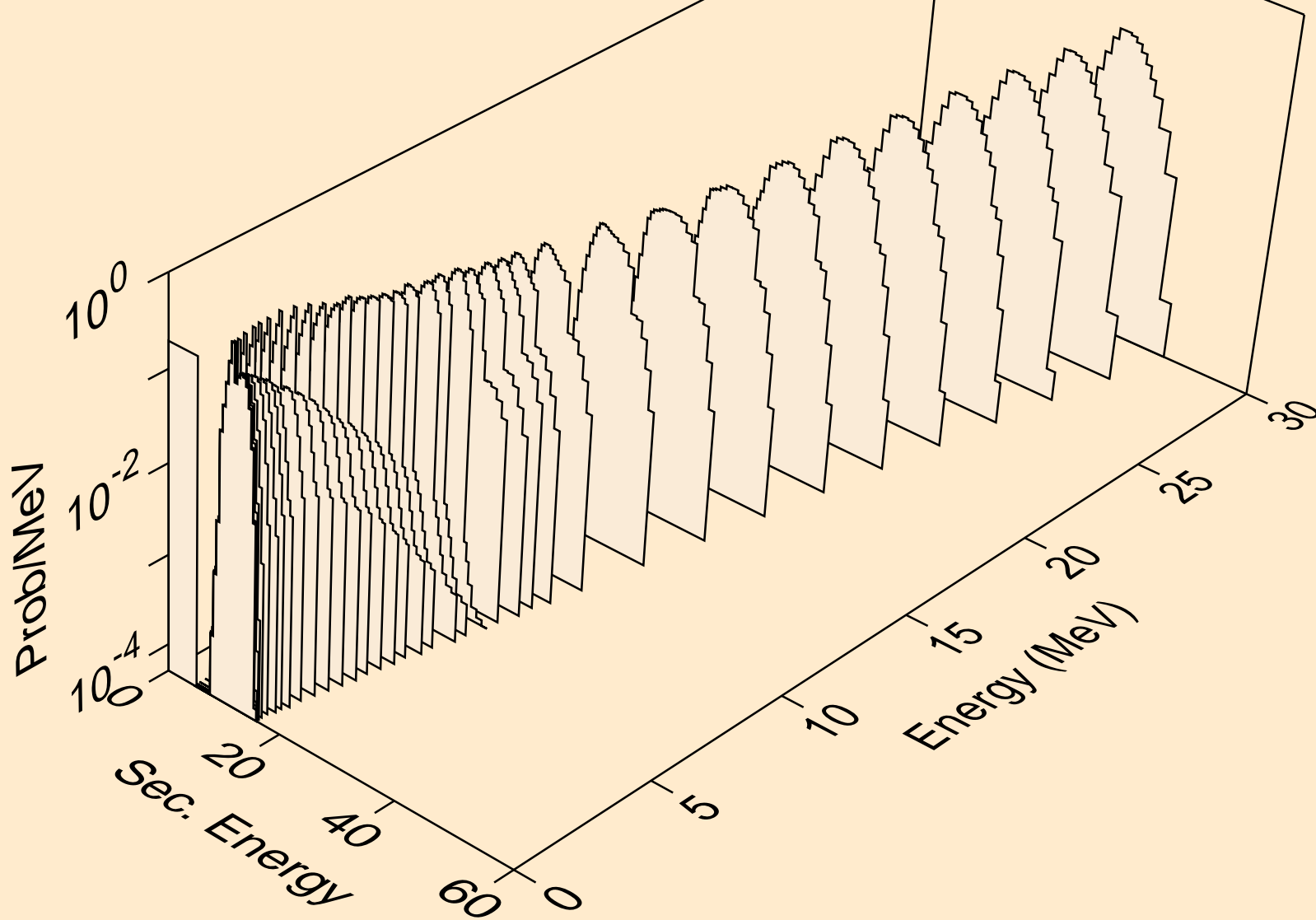
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alphas from (n,n\*)d2a



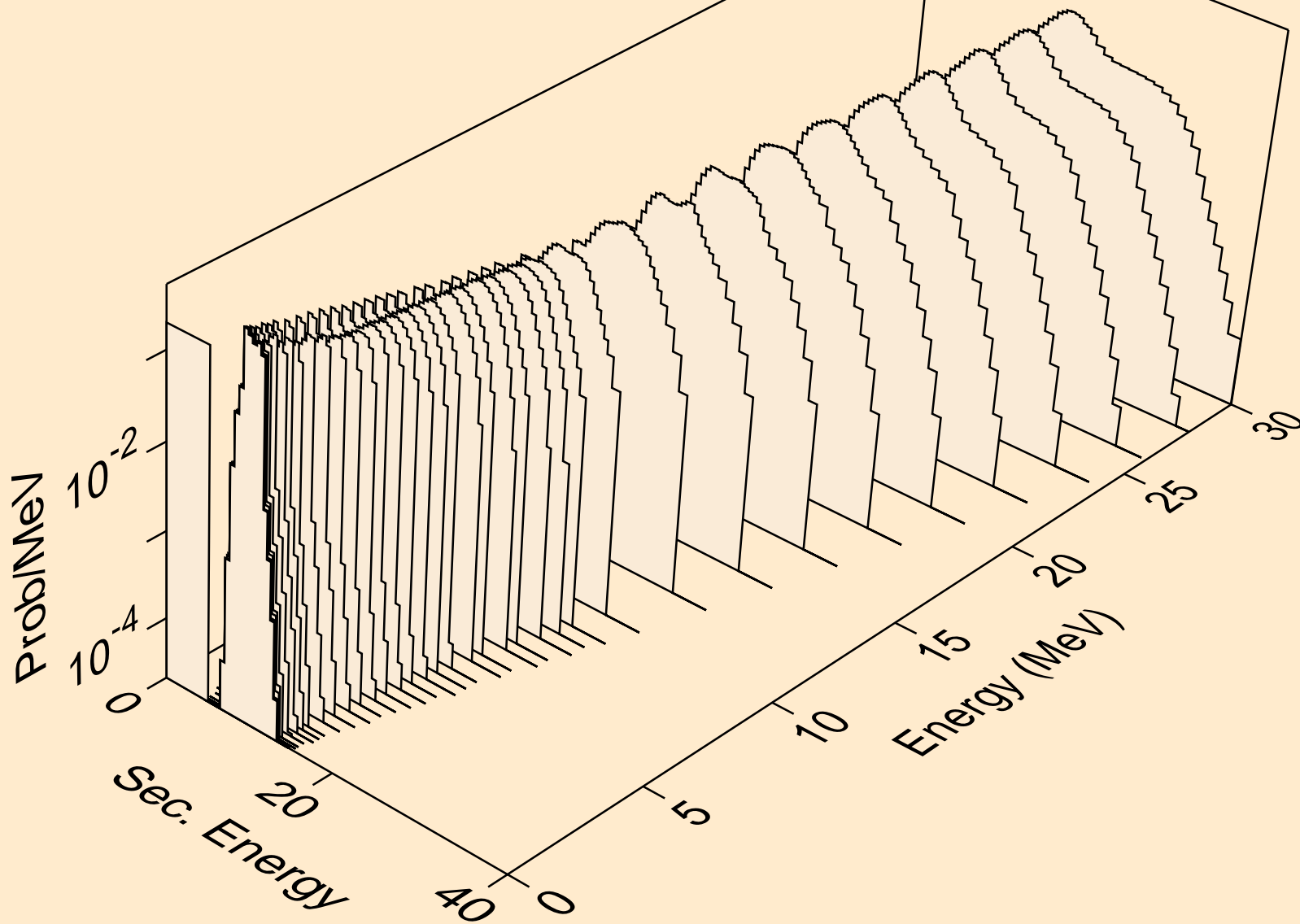
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alphas from (n,npa)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,a)

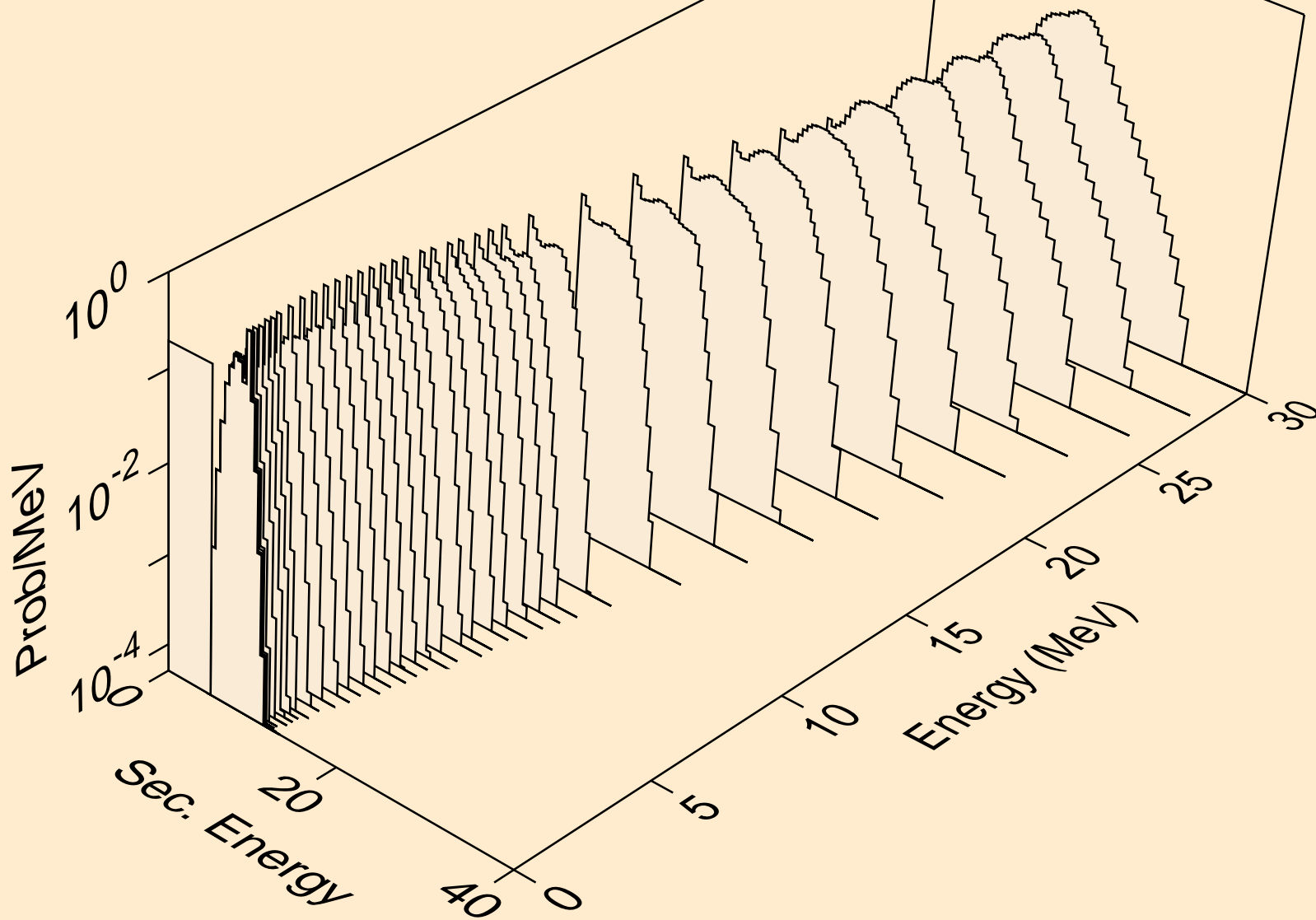


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alphas from (n,2a)

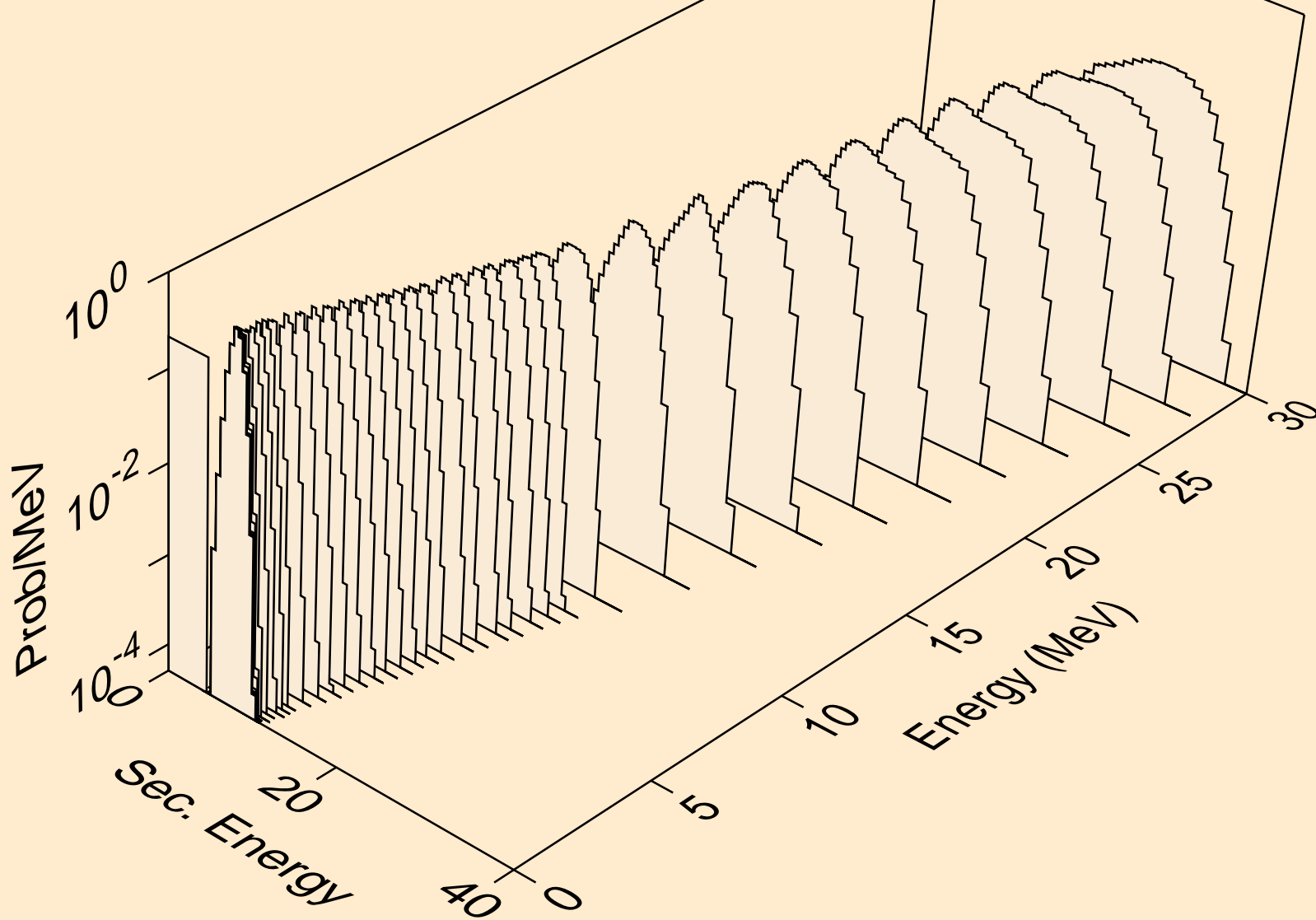




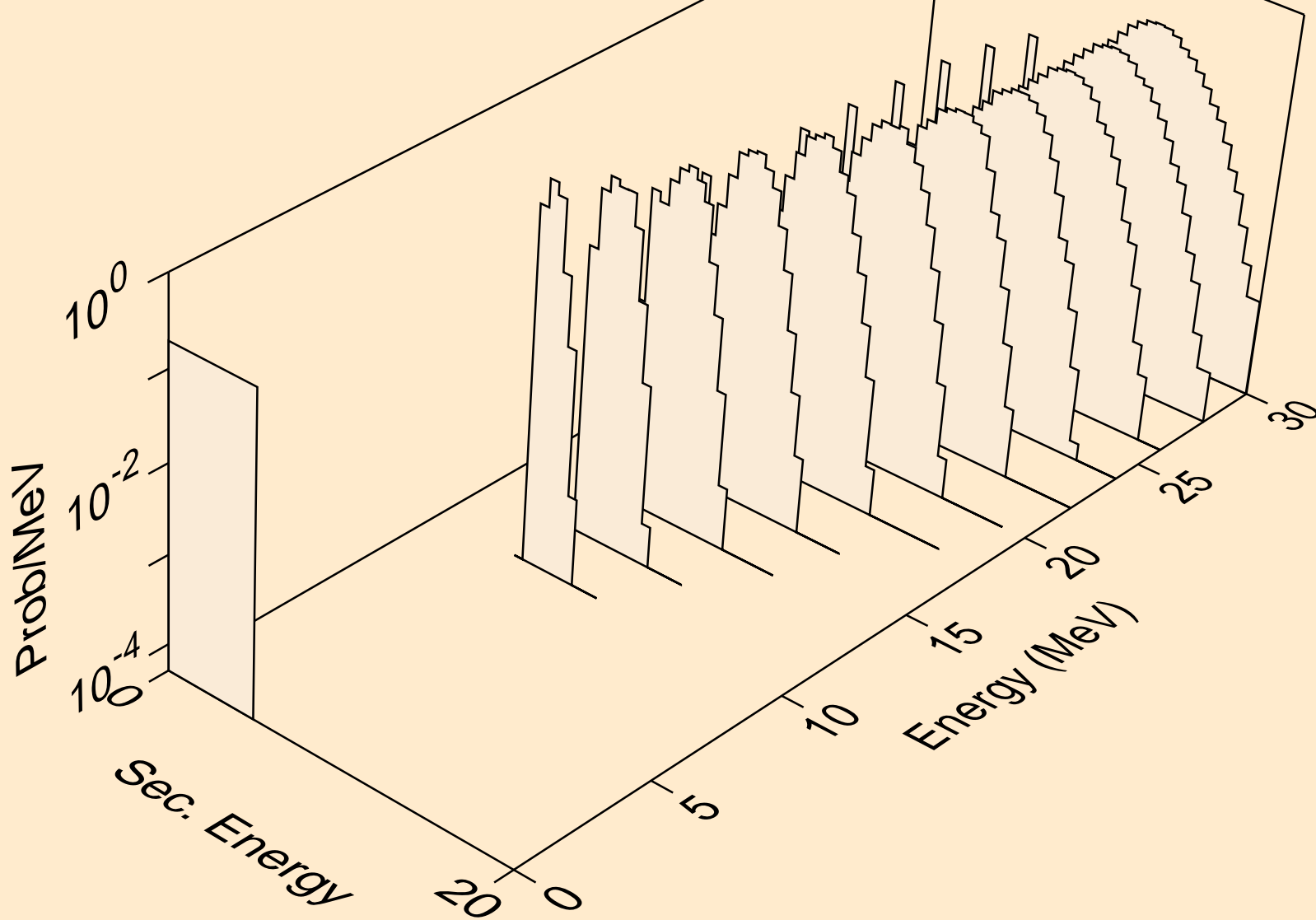
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alphas from (n,3a)



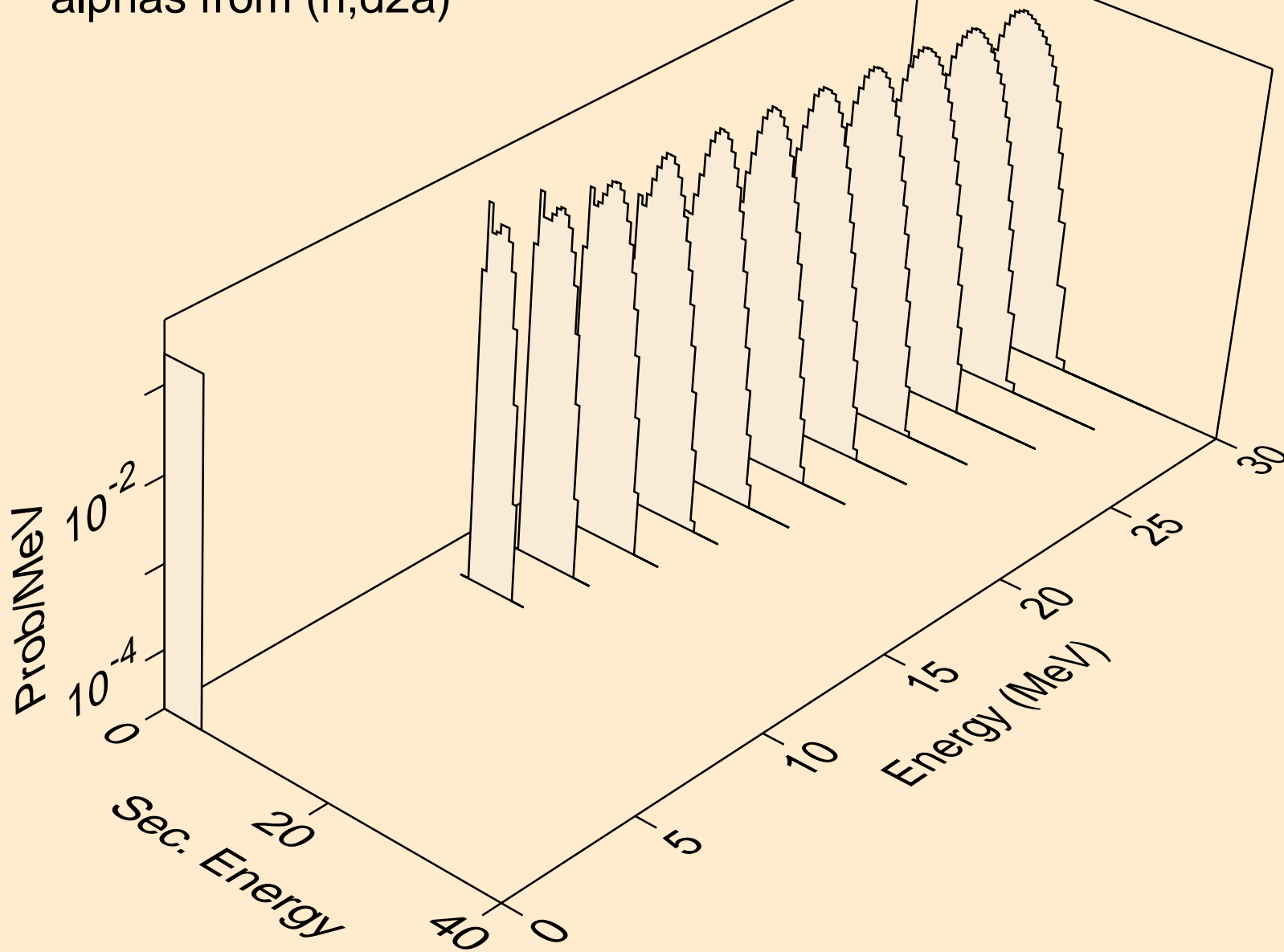
HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,pa)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,t2a)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,d2a)



HF159 NEUTRON ACER TENDL-2019 LIBRARY; T=293.16K  
alphas from (n,da)

