FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Principal cross sections

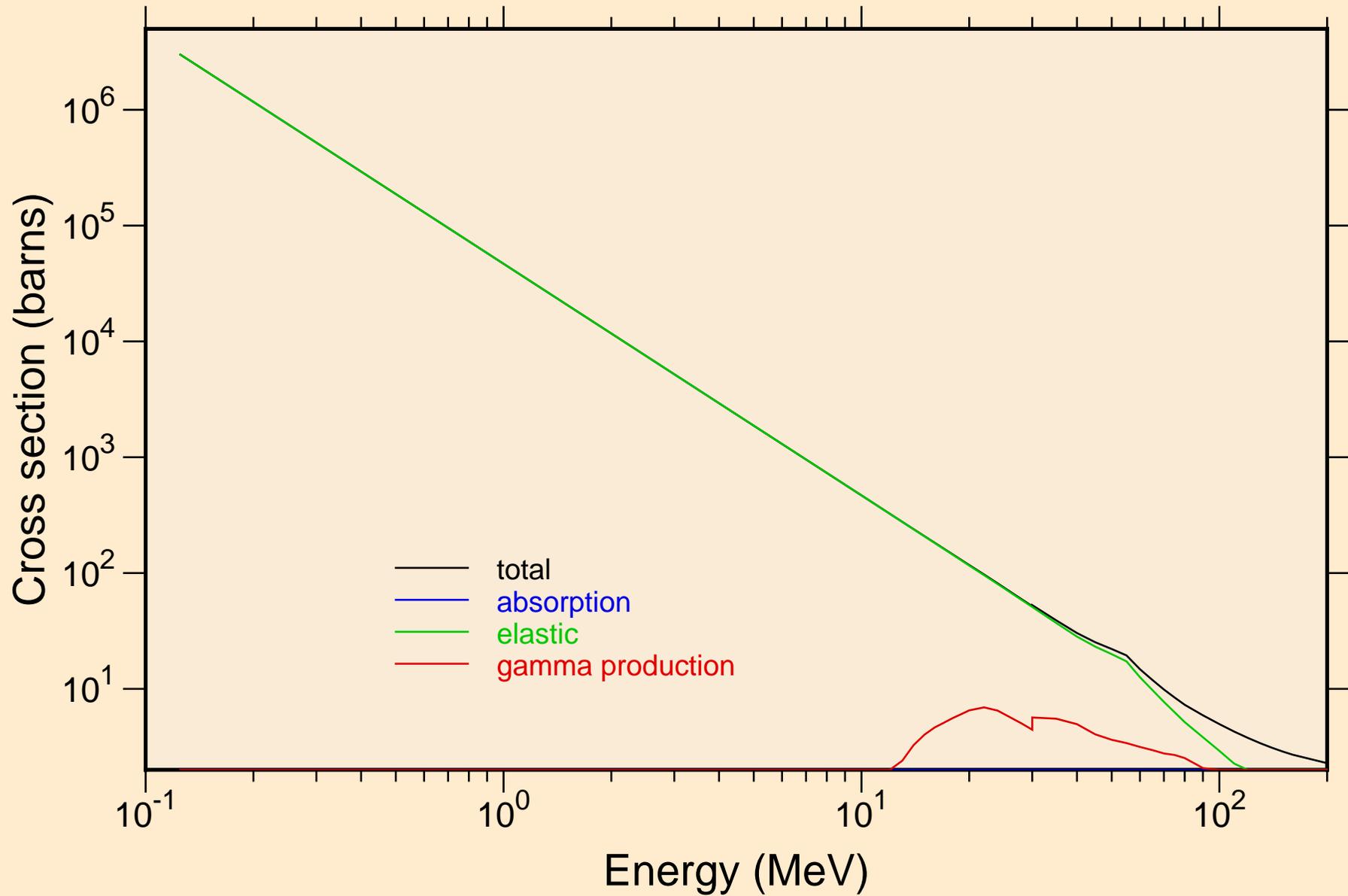Cross section (barns) vs Energy (MeV)

- total
- absorption
- elastic
- gamma production

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Heating

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Principal cross sections
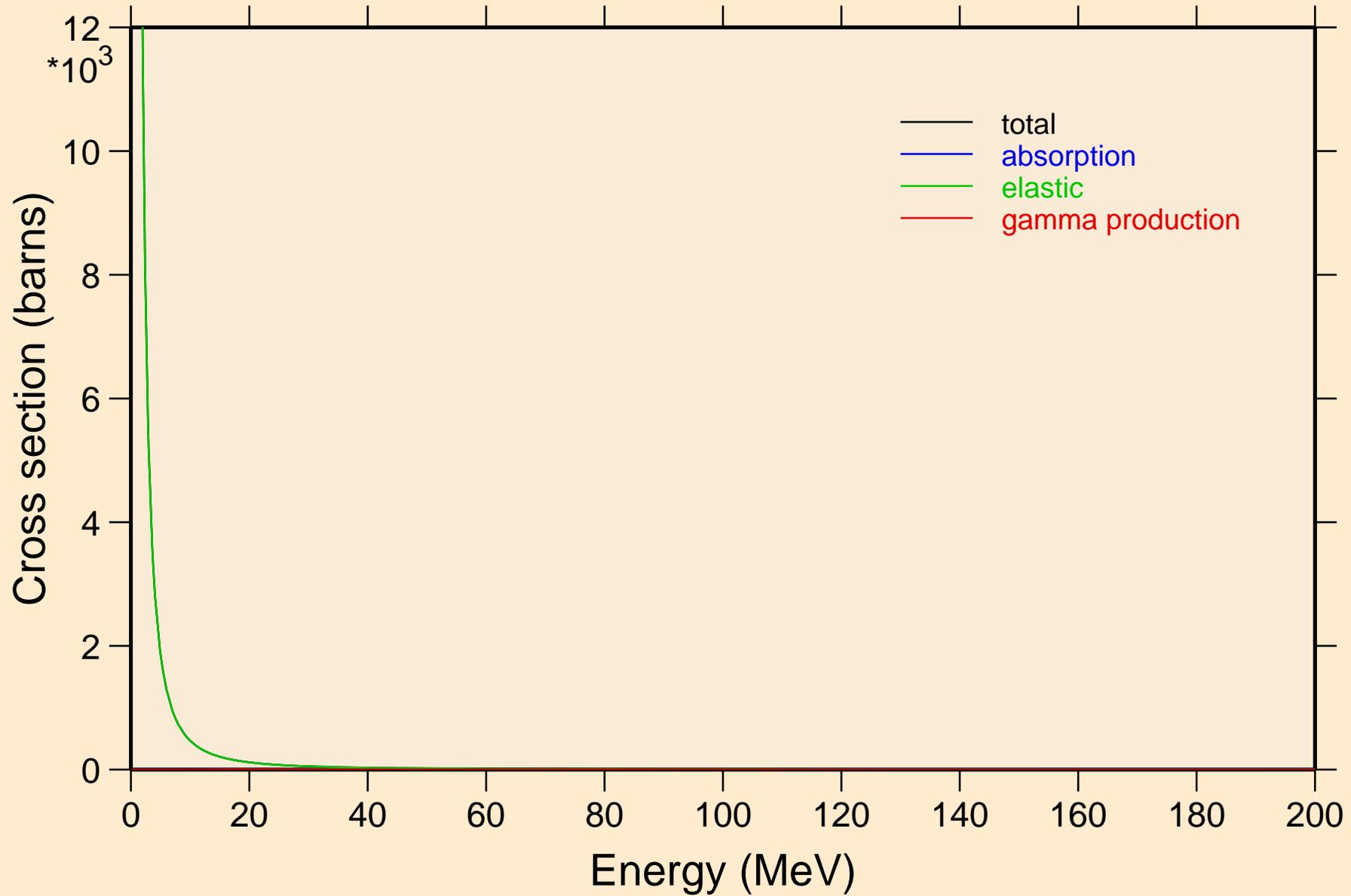
- total
- absorption
- elastic
- gamma production
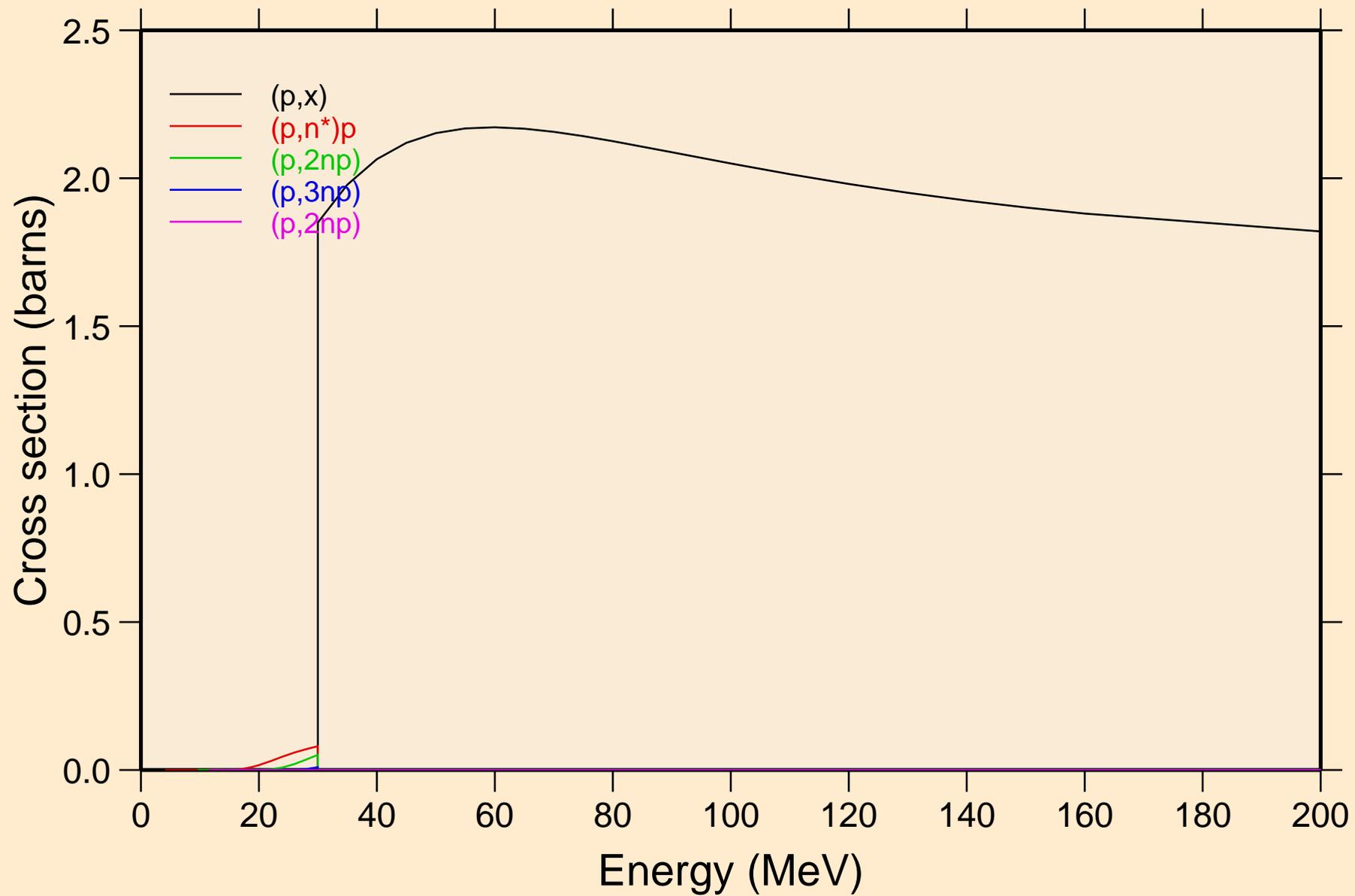
Cross section (barns)

$*10^3$

Energy (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Heating

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Threshold reactions

Legend:
- (p,x) — black
- (p,n*)p — red
- (p,2np) — green
- (p,3np) — blue
- (p,2np) — magenta

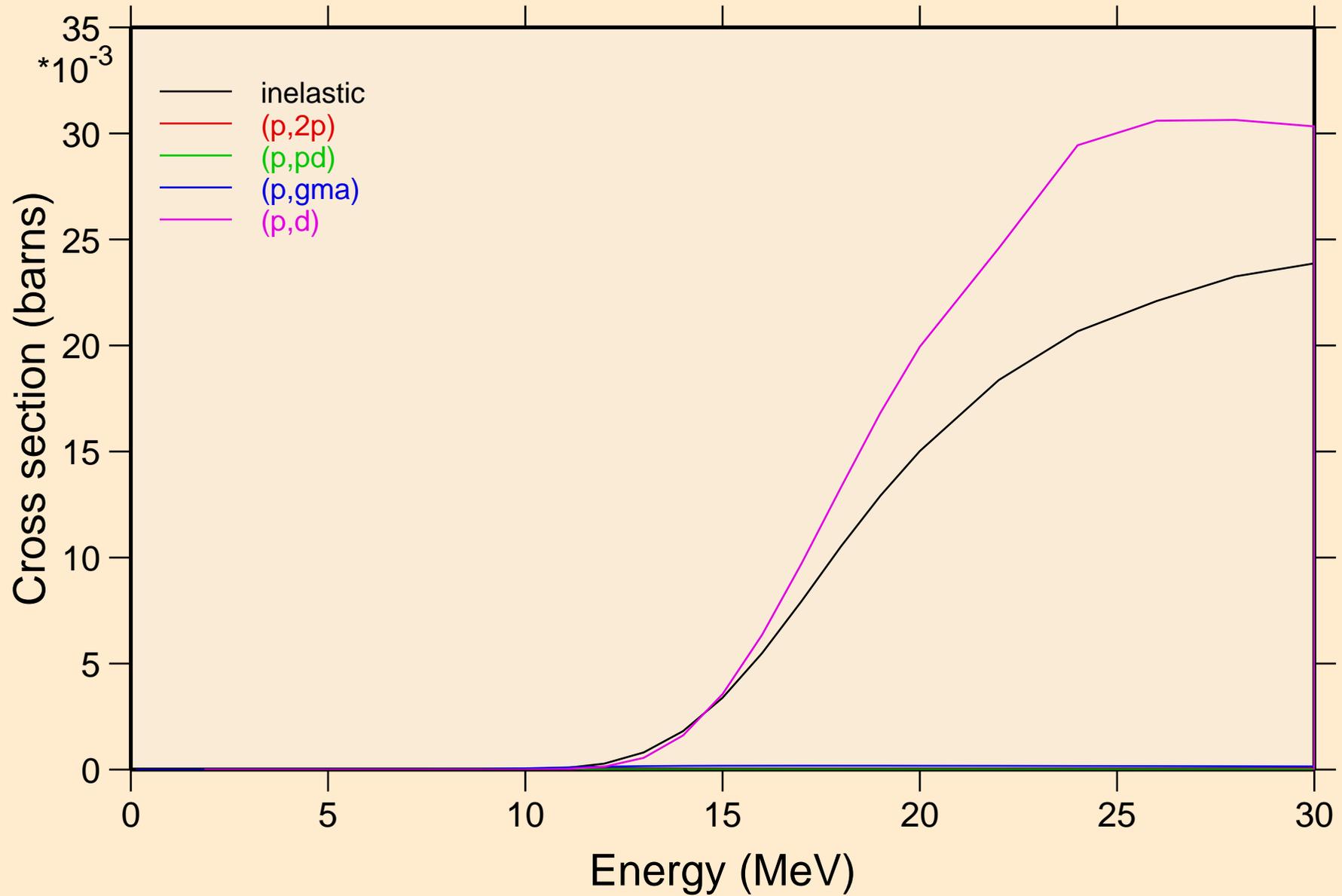Cross section (barns) vs Energy (MeV)
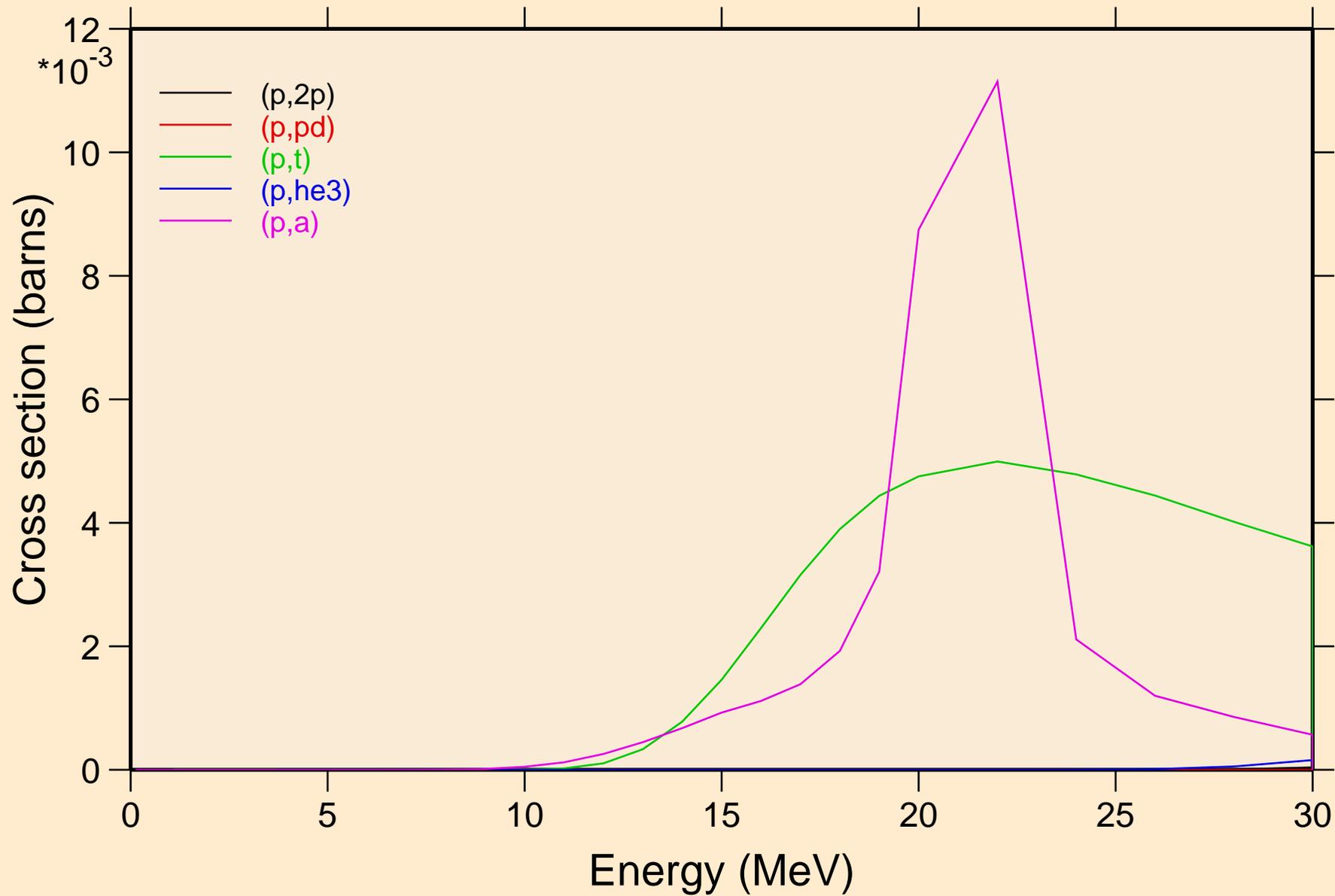
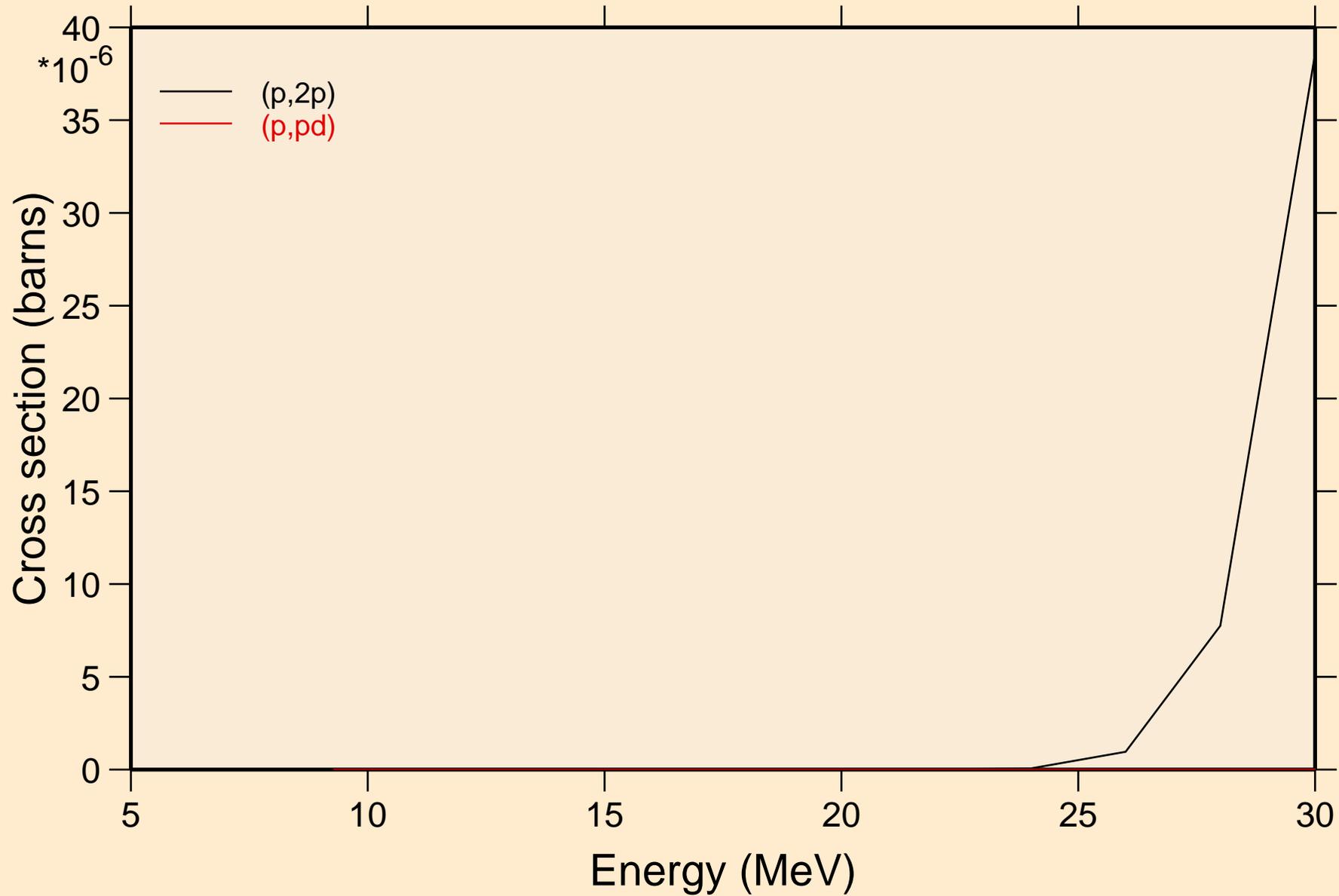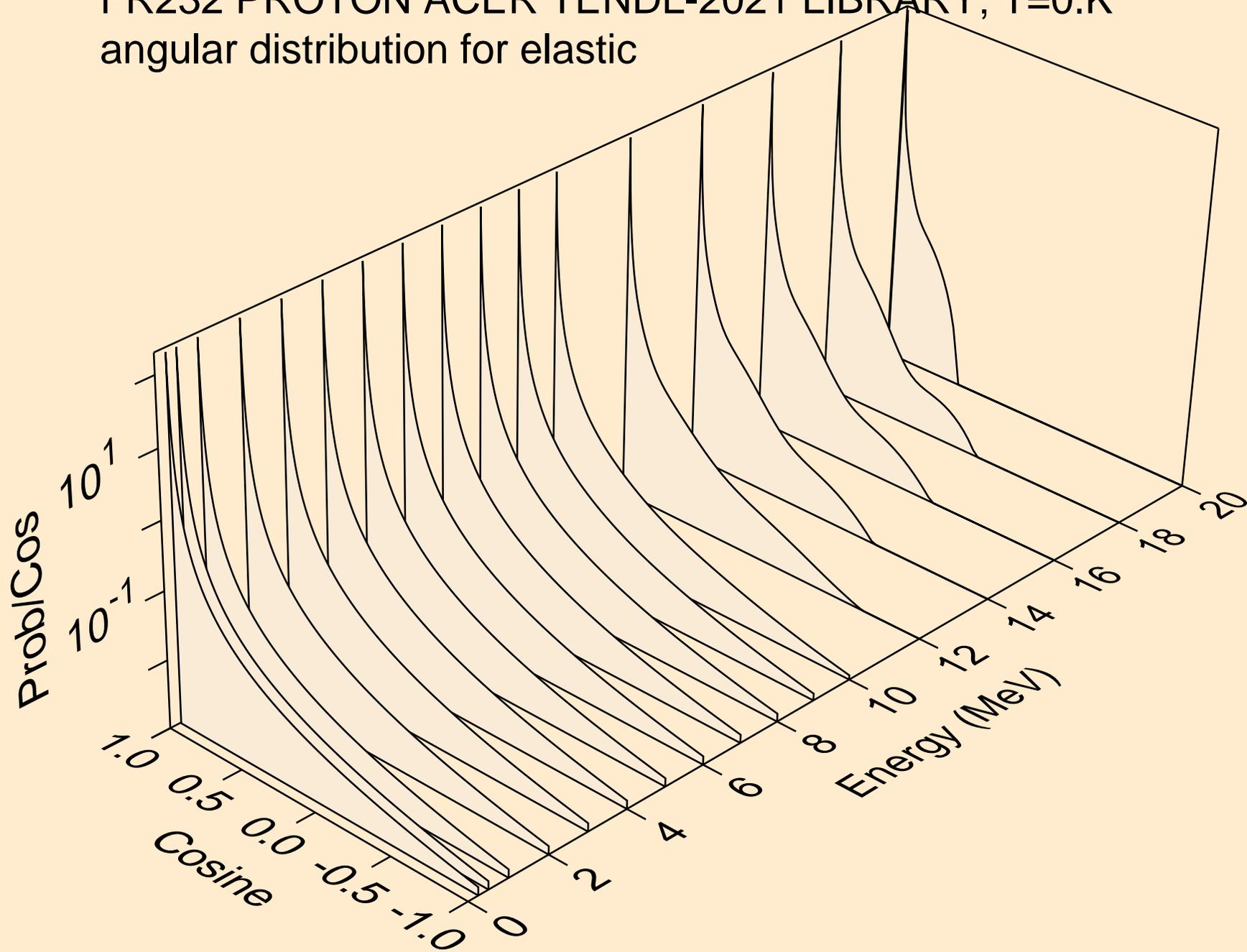FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Threshold reactions

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Threshold reactions

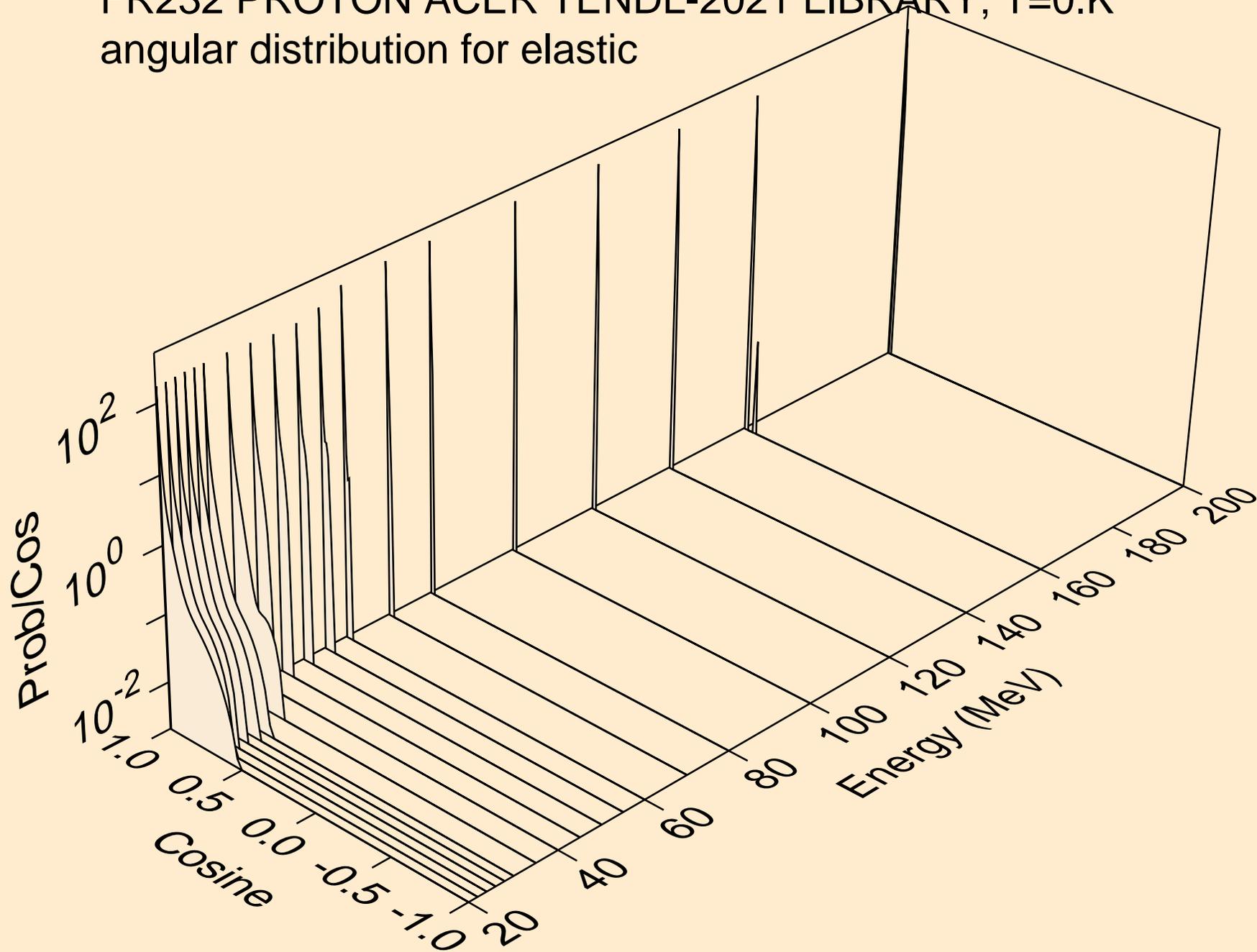Cross section (barns) vs Energy (MeV)

Legend:
- (p,2p)
- (p,pd)
- (p,t)
- (p,he3)
- (p,a)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Threshold reactions

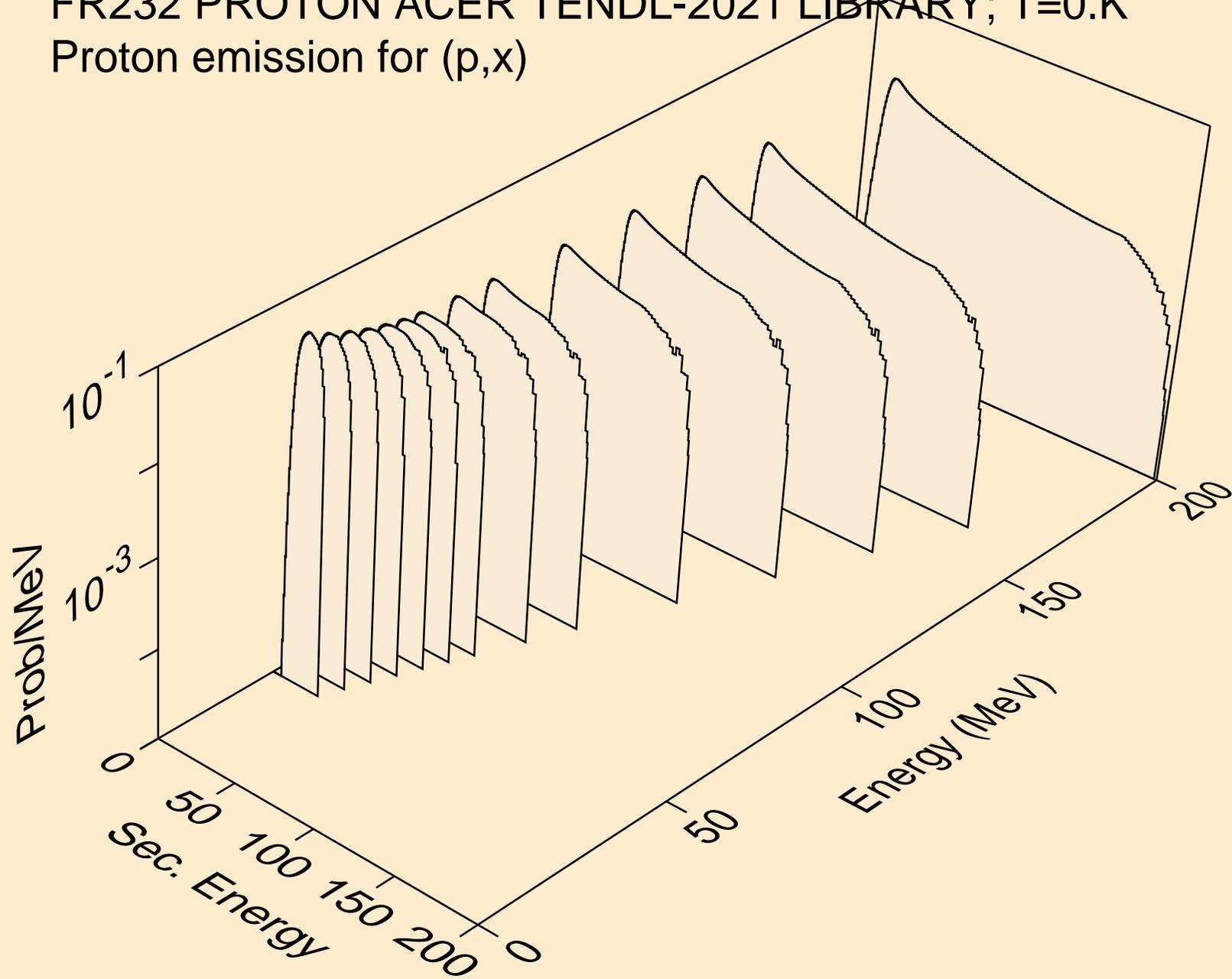Cross section (barns)

Energy (MeV)

$*10^{-6}$

(p,2p)
(p,pd)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
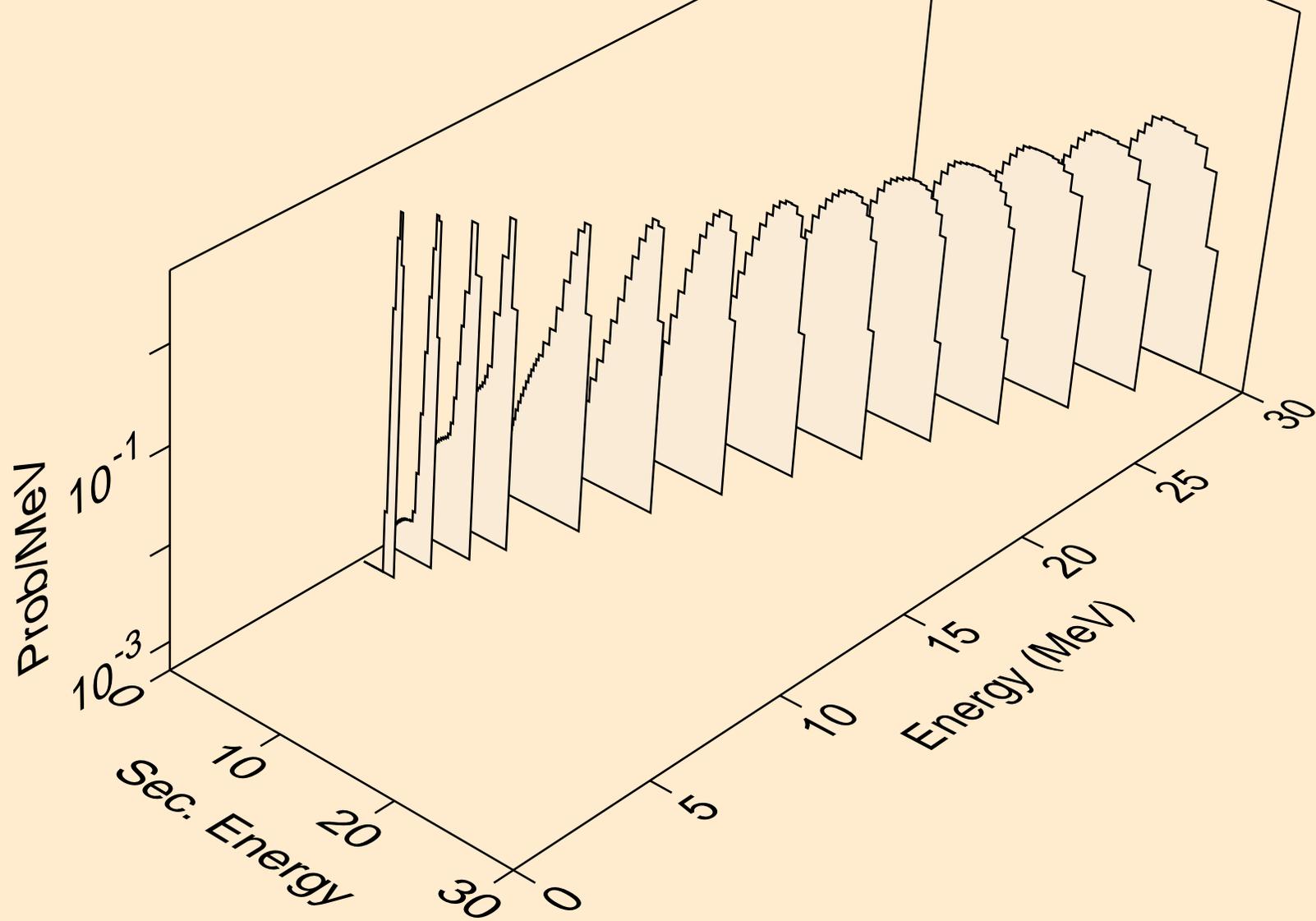angular distribution for elastic

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
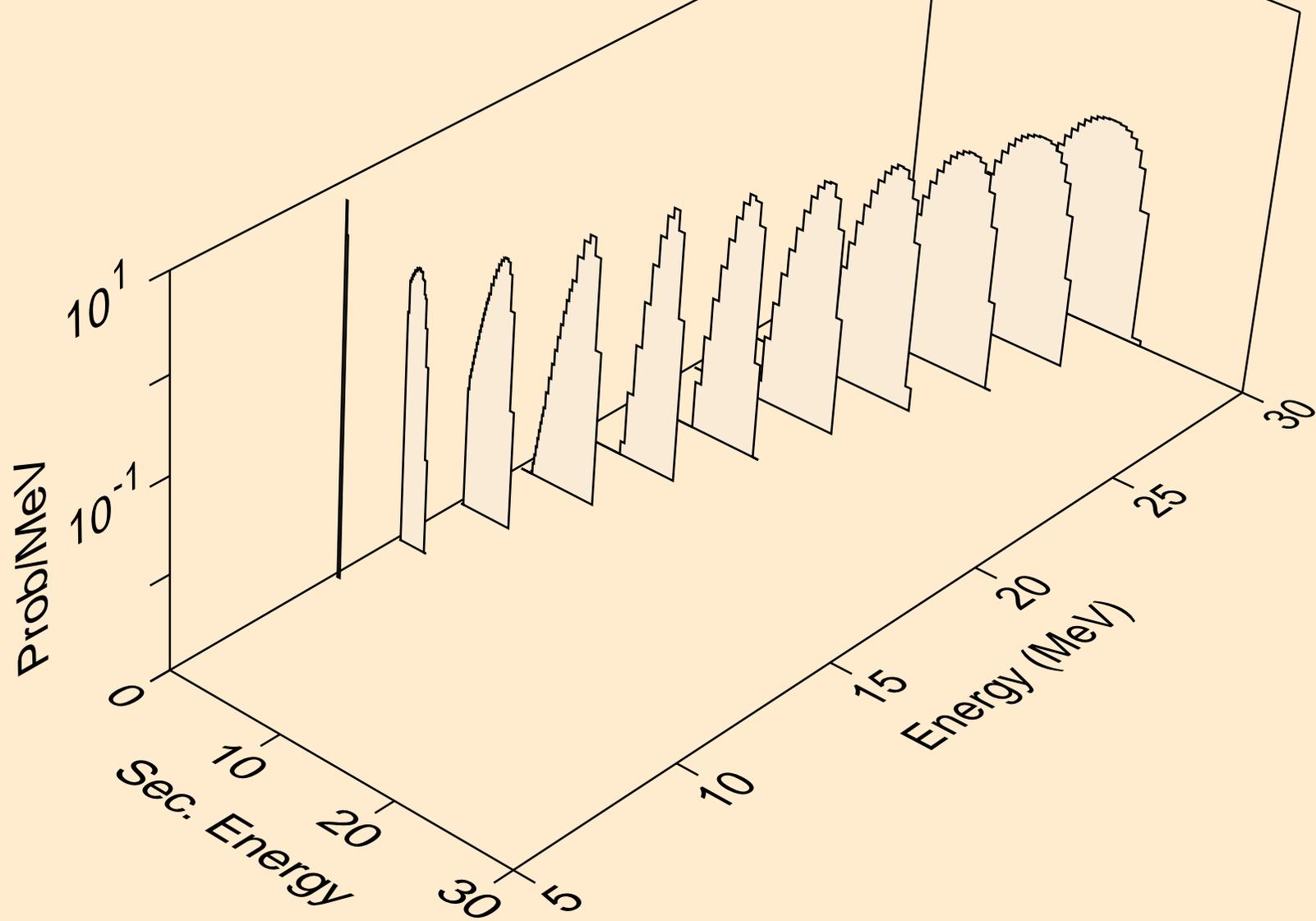angular distribution for elastic

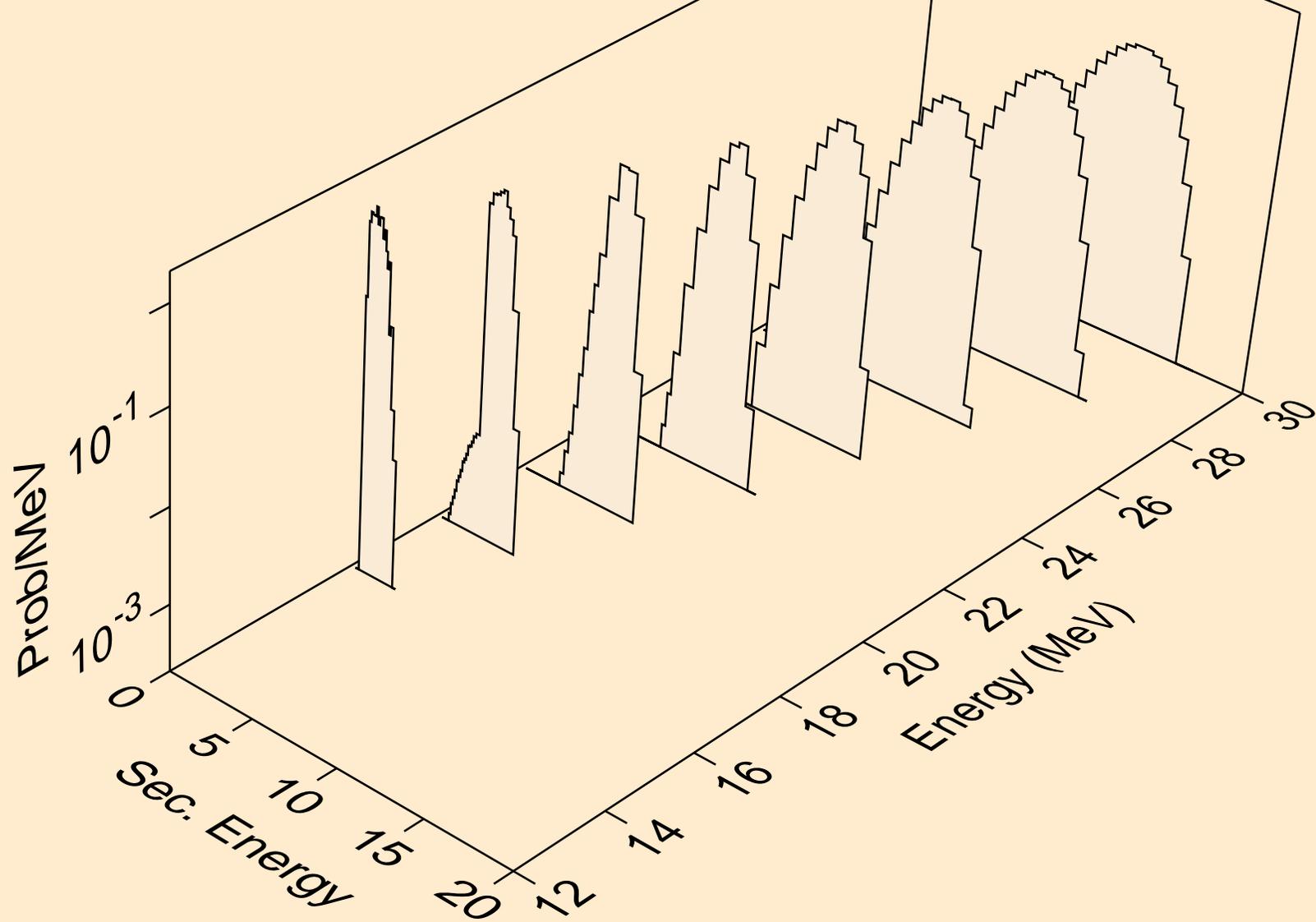FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Proton emission for (p,x)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
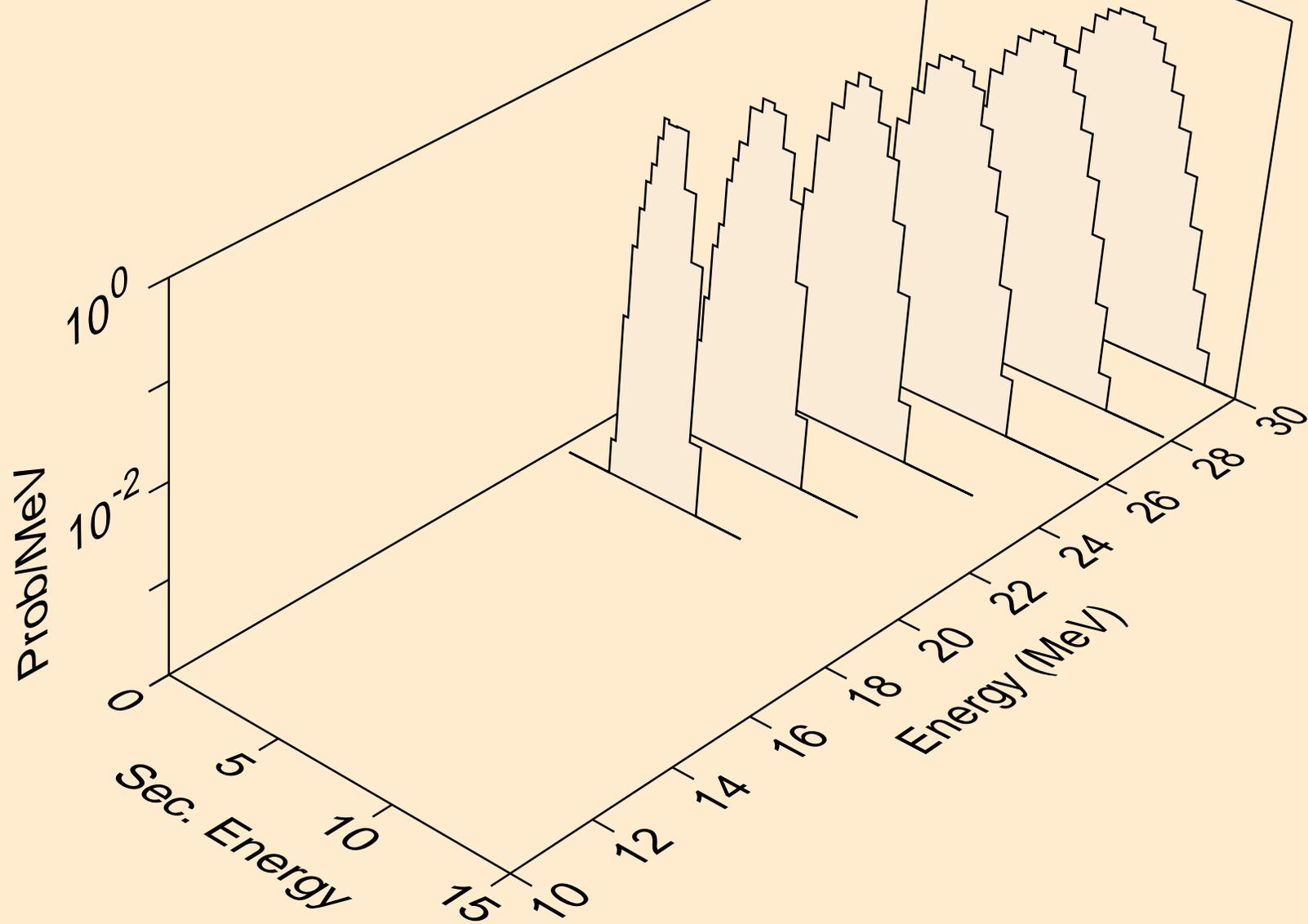Proton emission for (p,n*)p

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
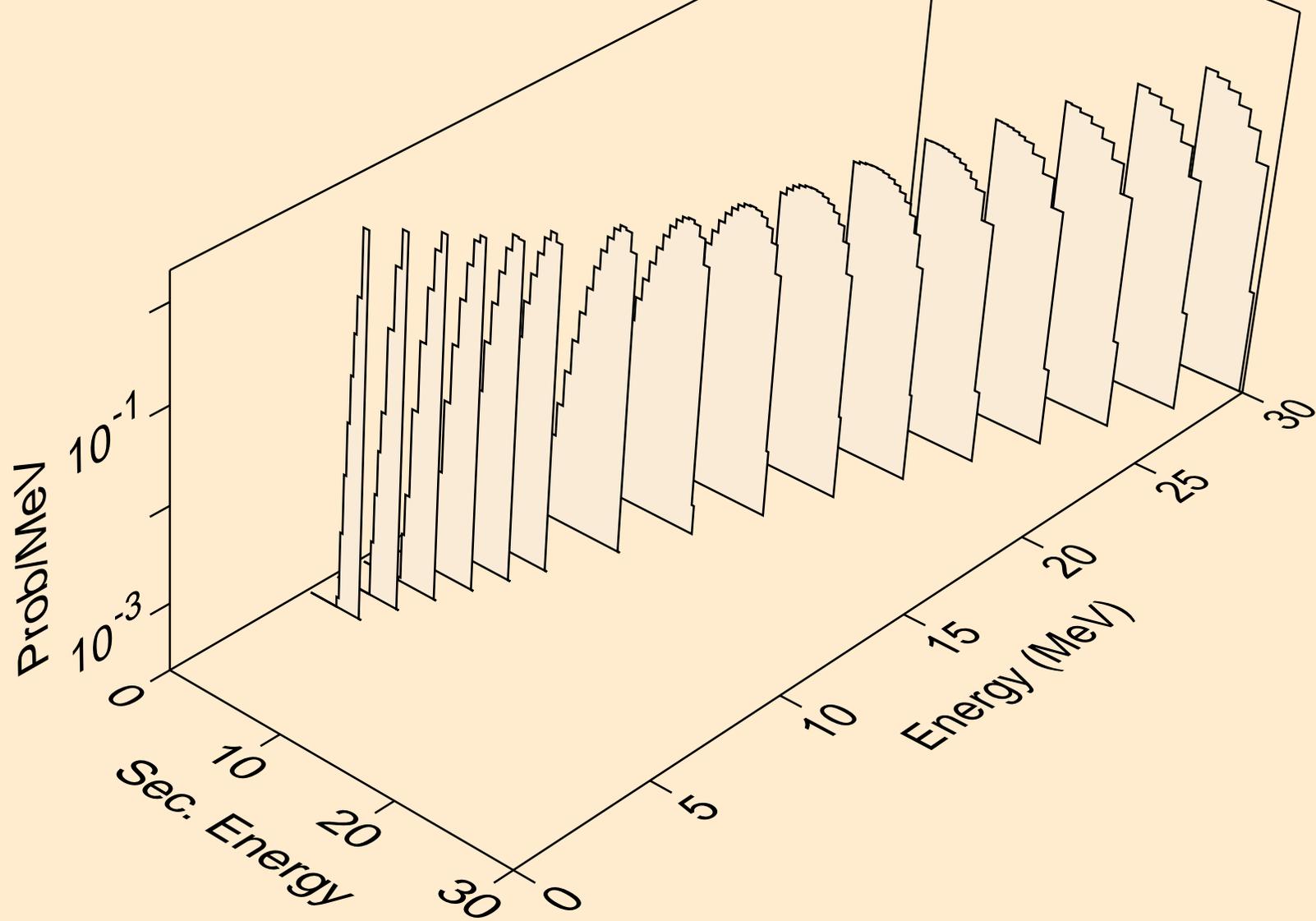Proton emission for (p,2np)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
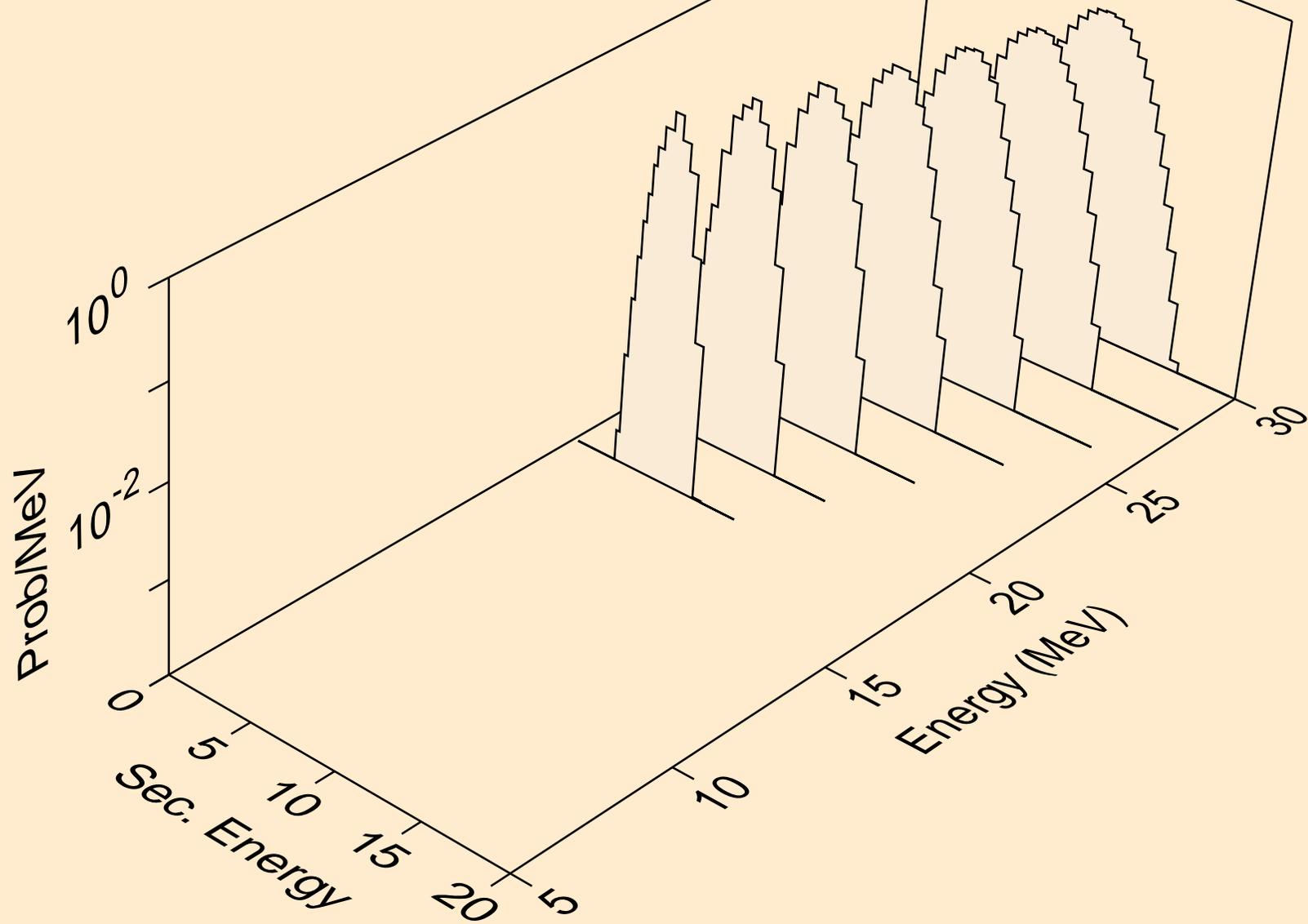Proton emission for (p,3np)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
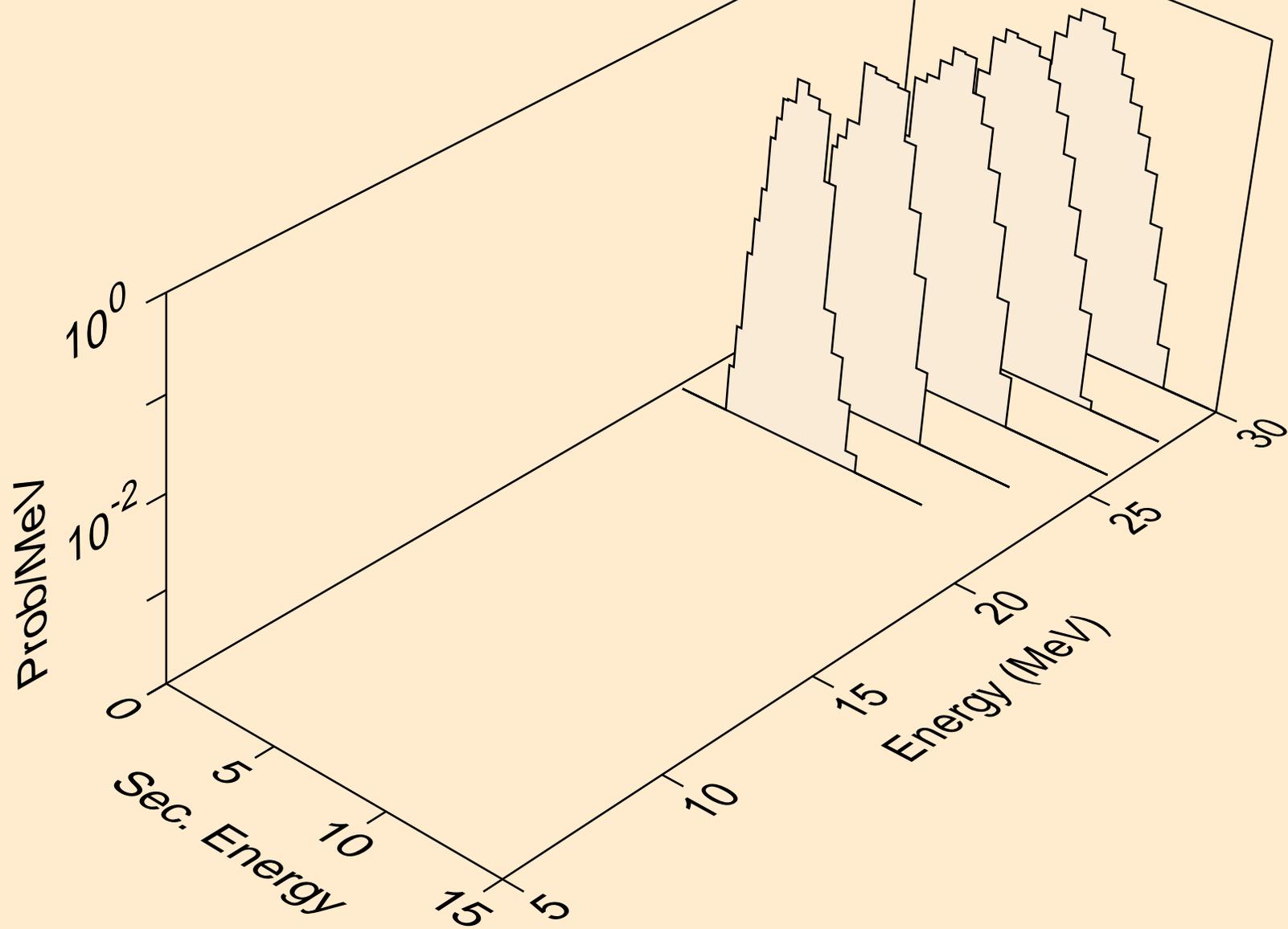Proton emission for (p,2np)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
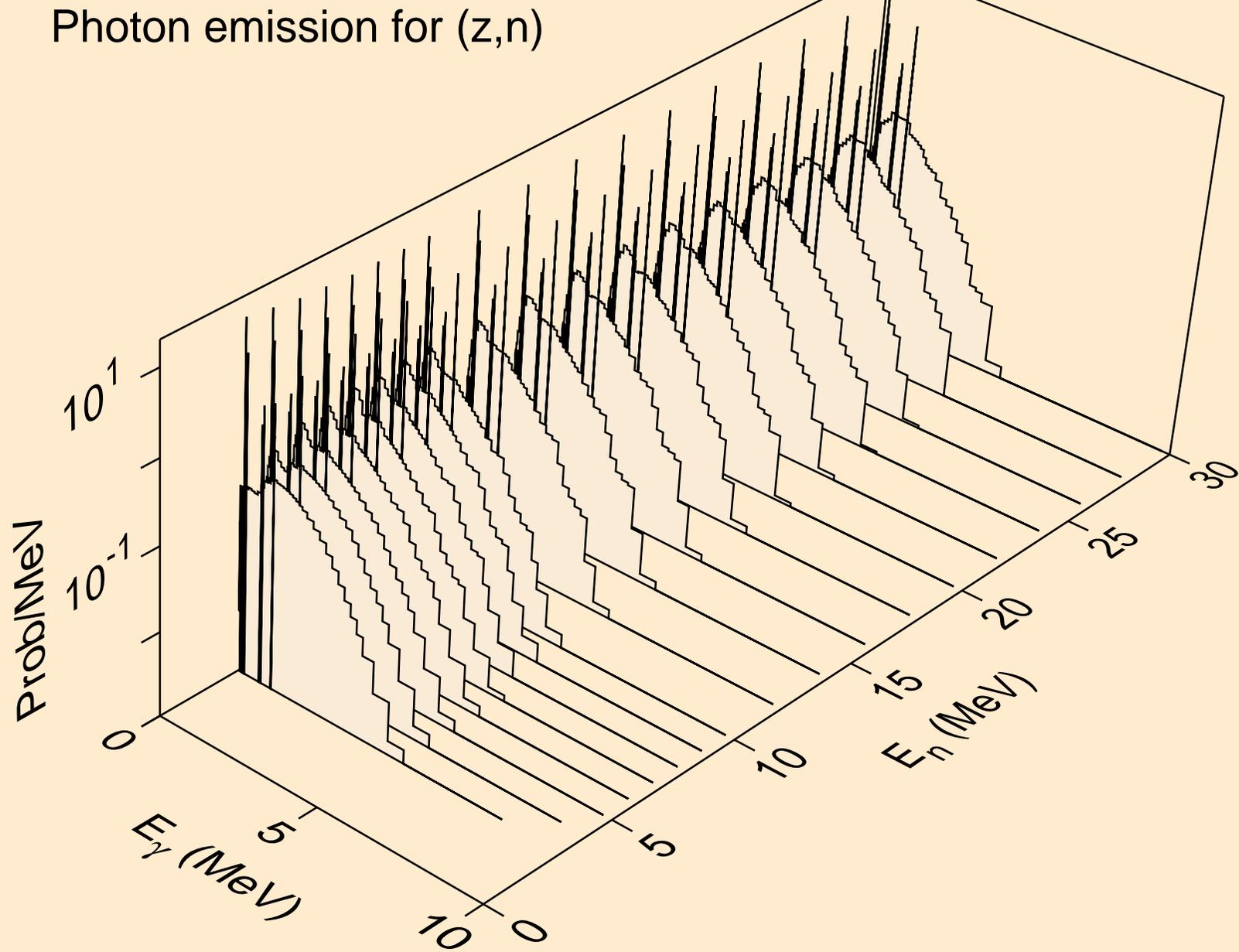Proton emission for inelastic

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
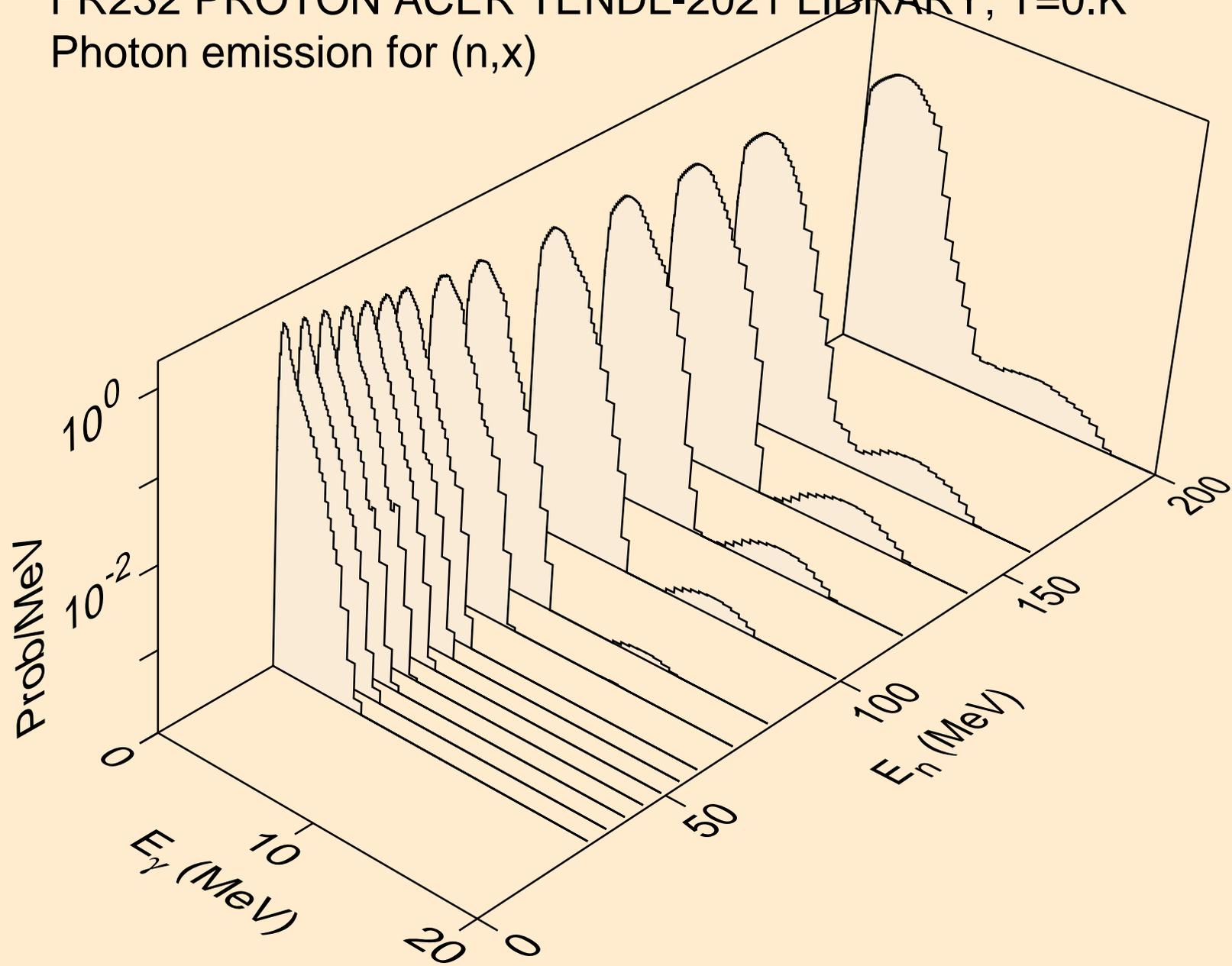Proton emission for (p,2p)

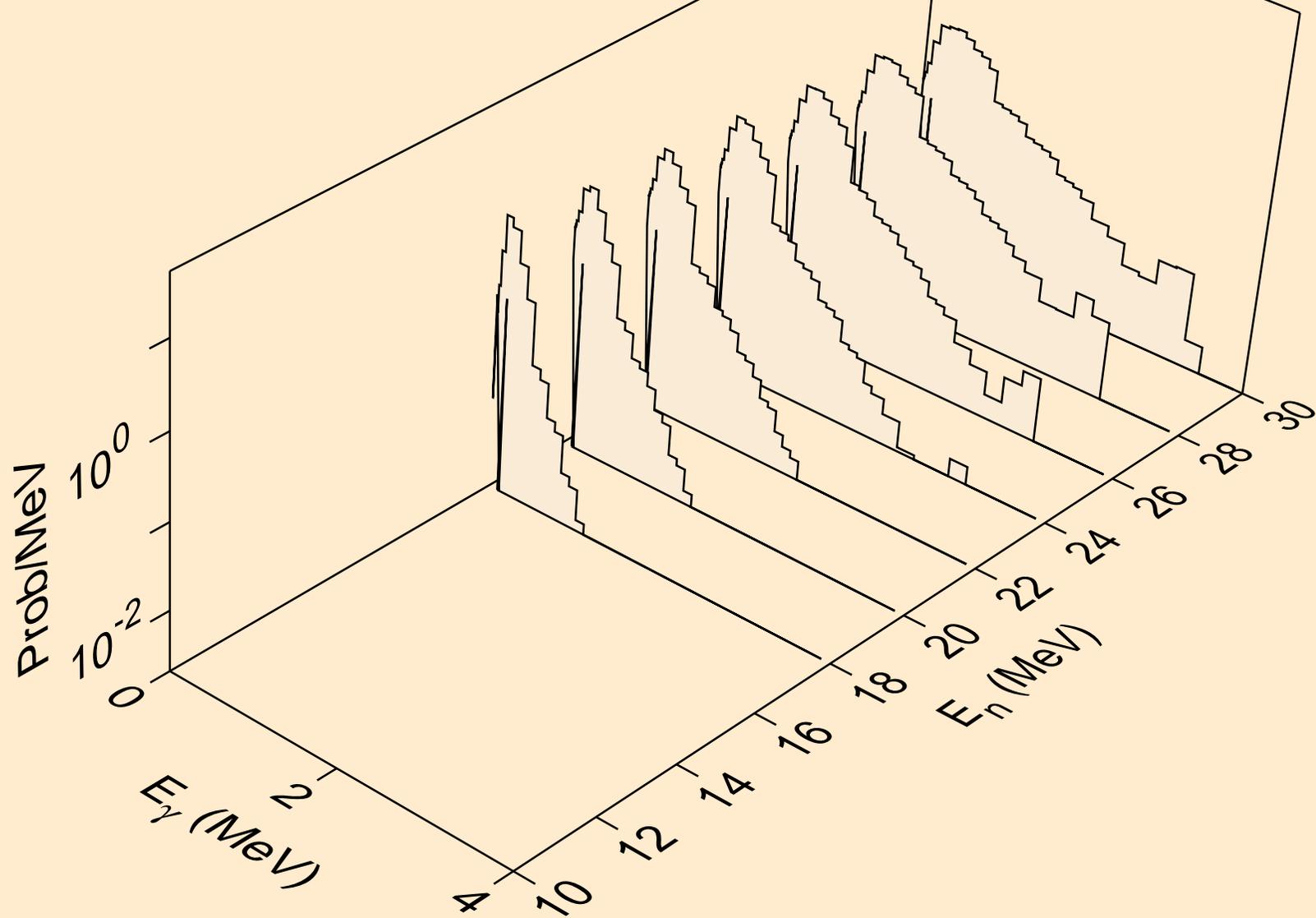FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Proton emission for (p,pd)

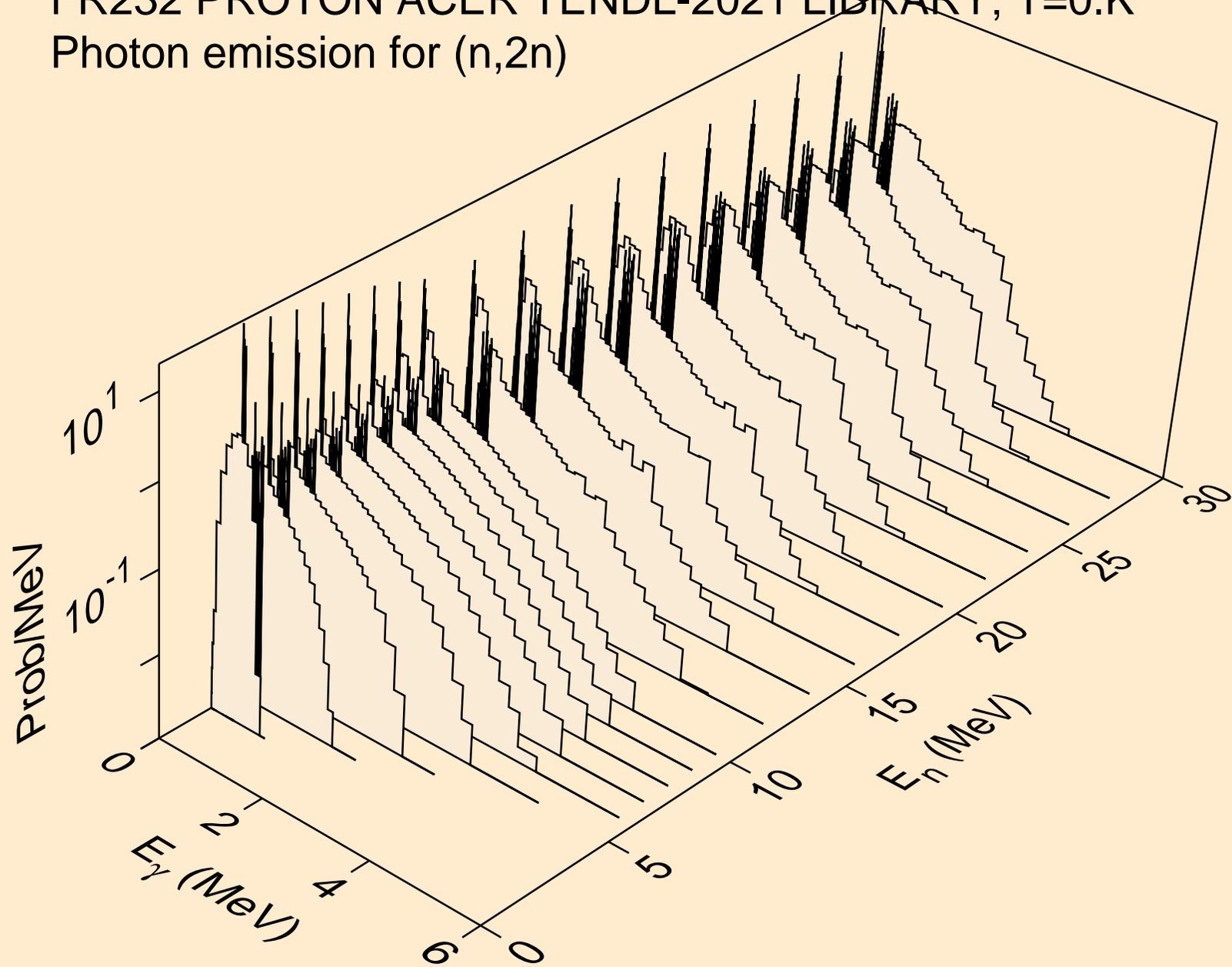FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (z,n)

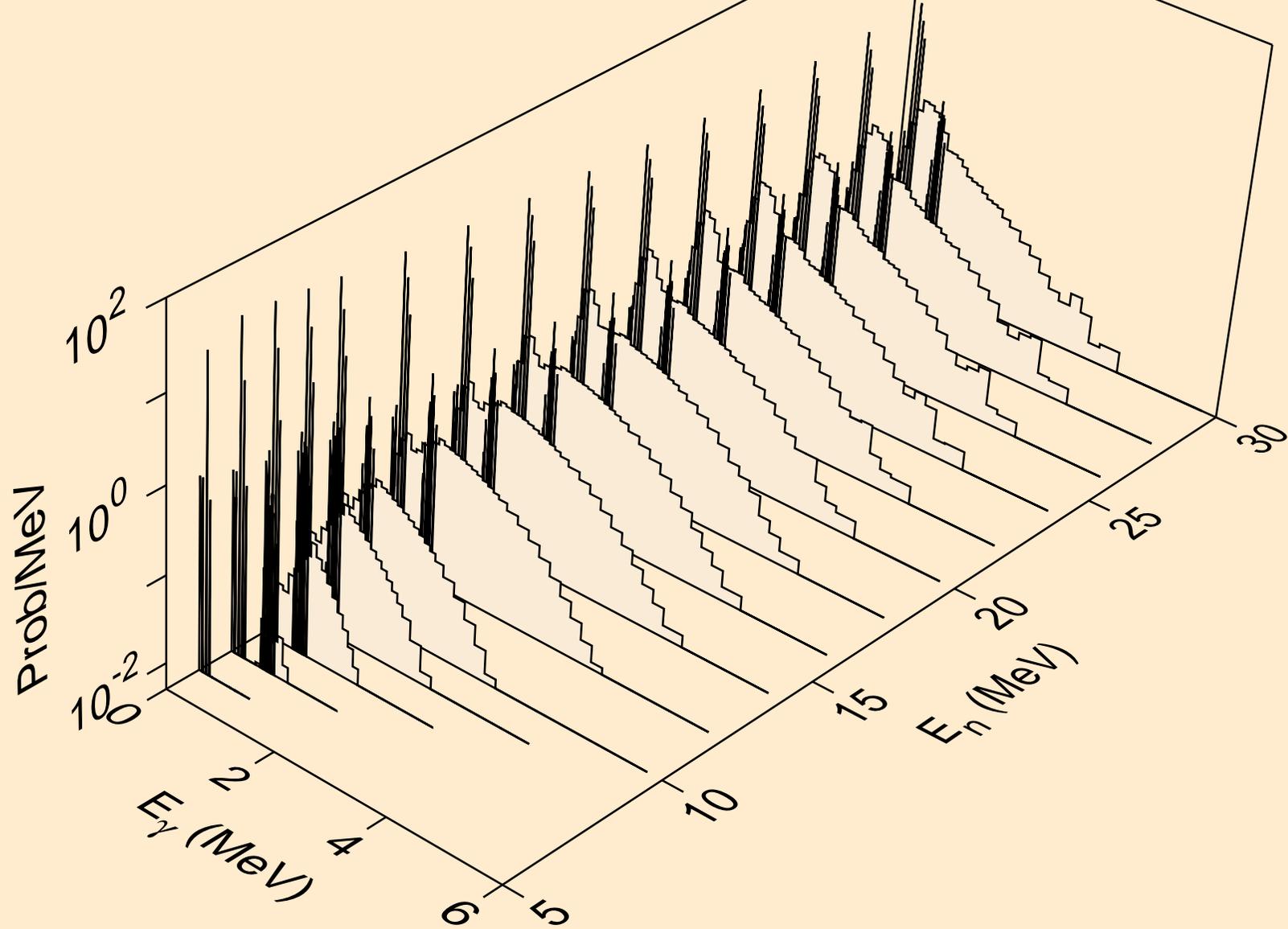FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,x)

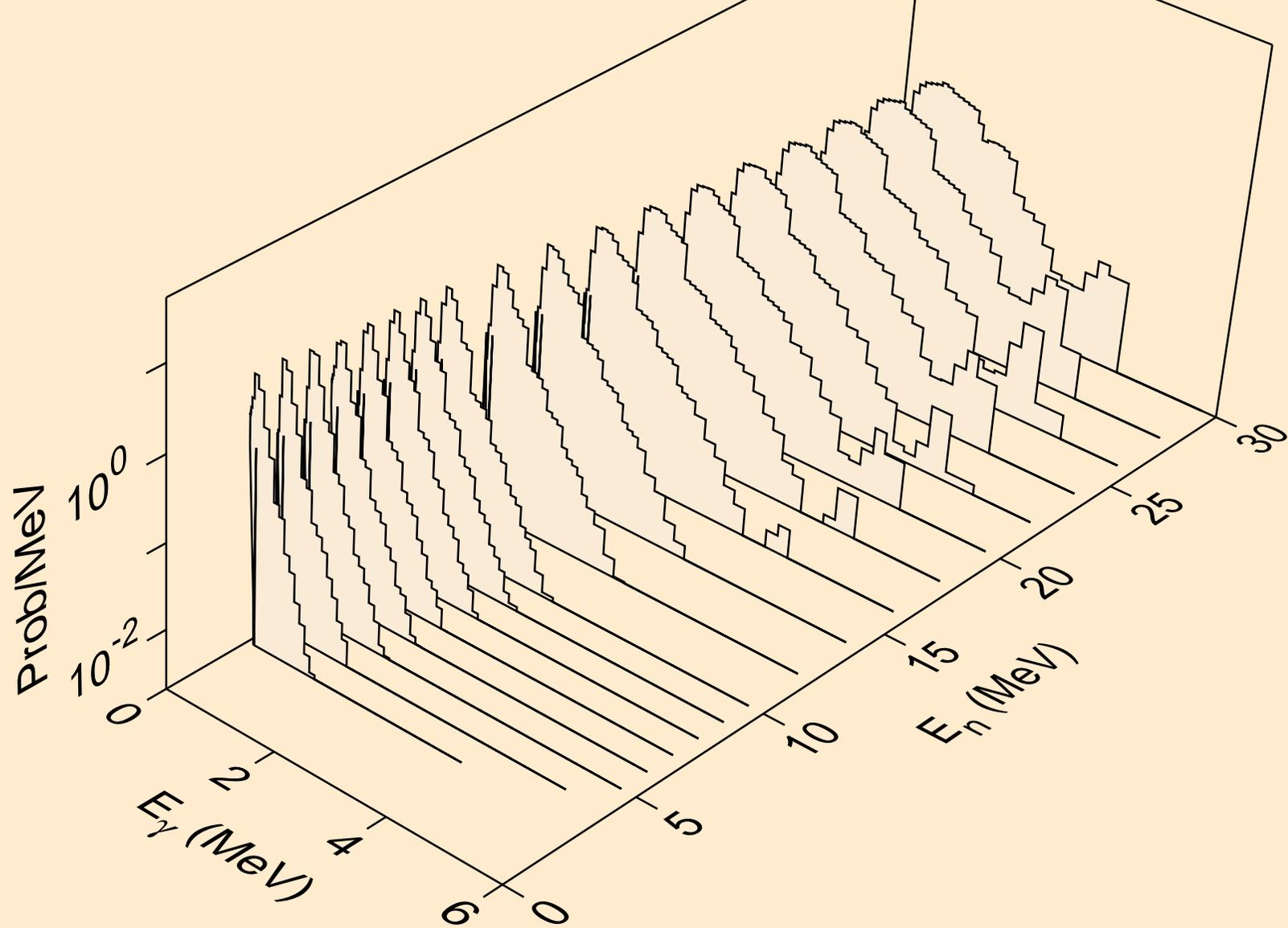FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,2nd)

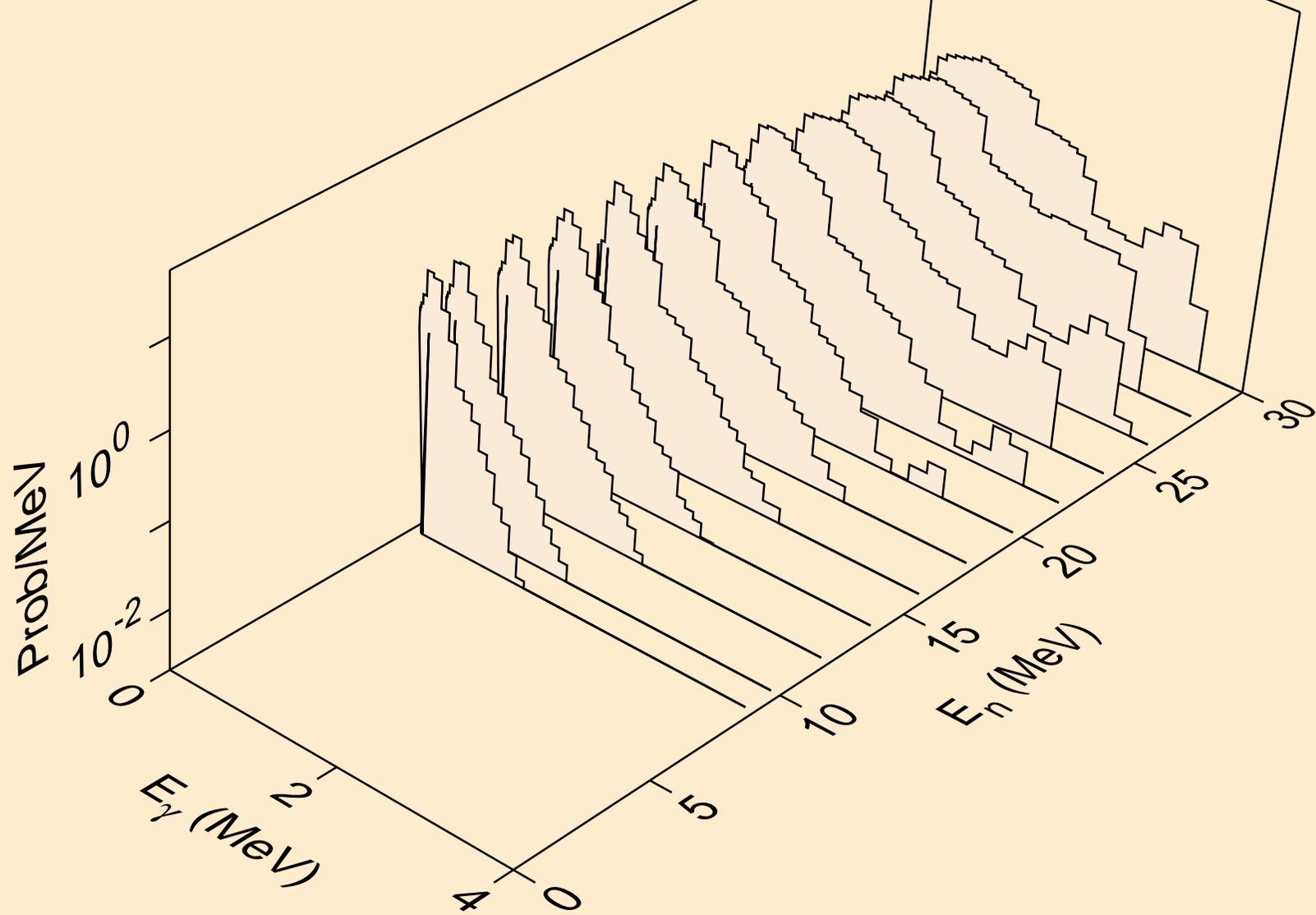FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,2n)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
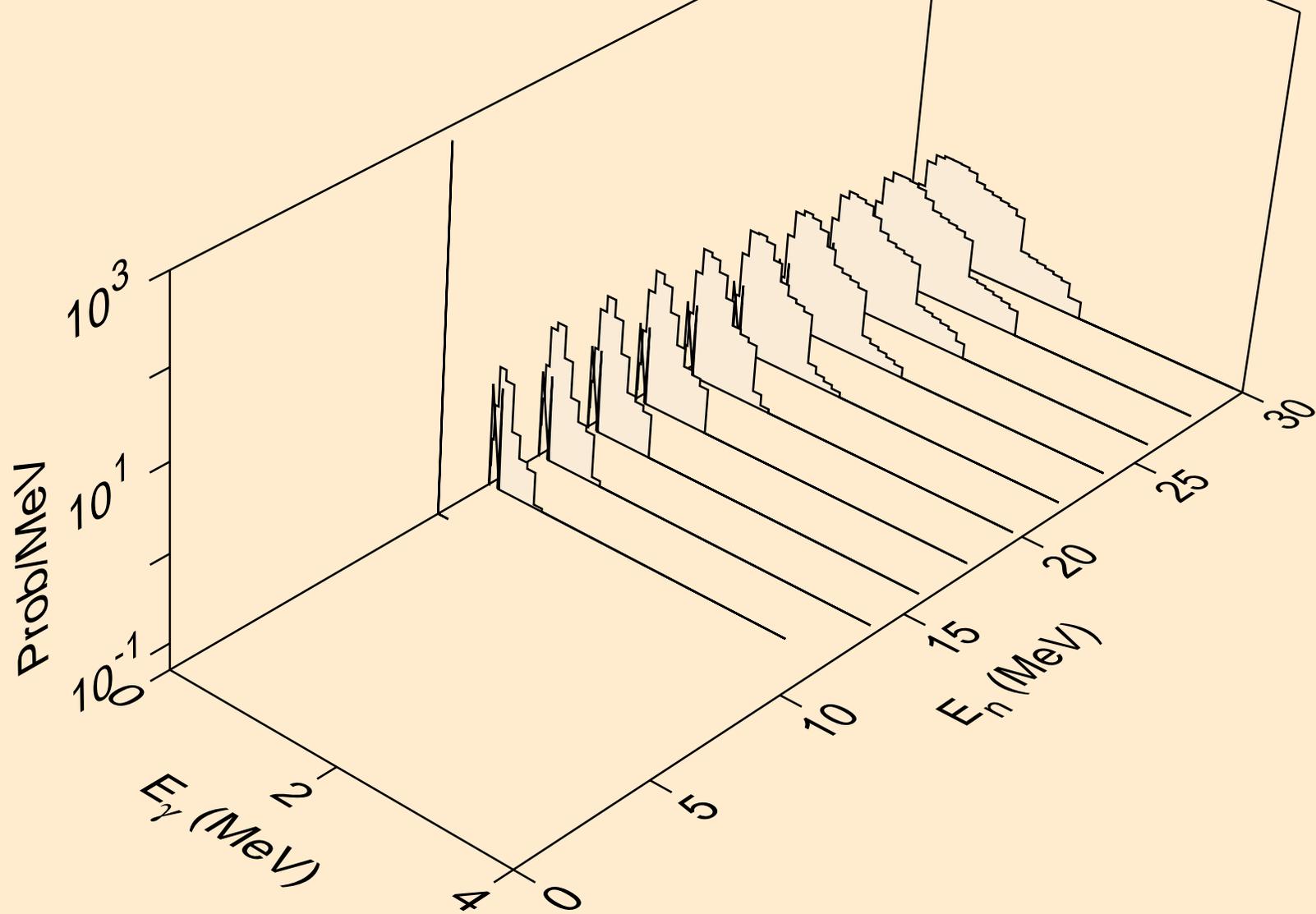Photon emission for (n,3n)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
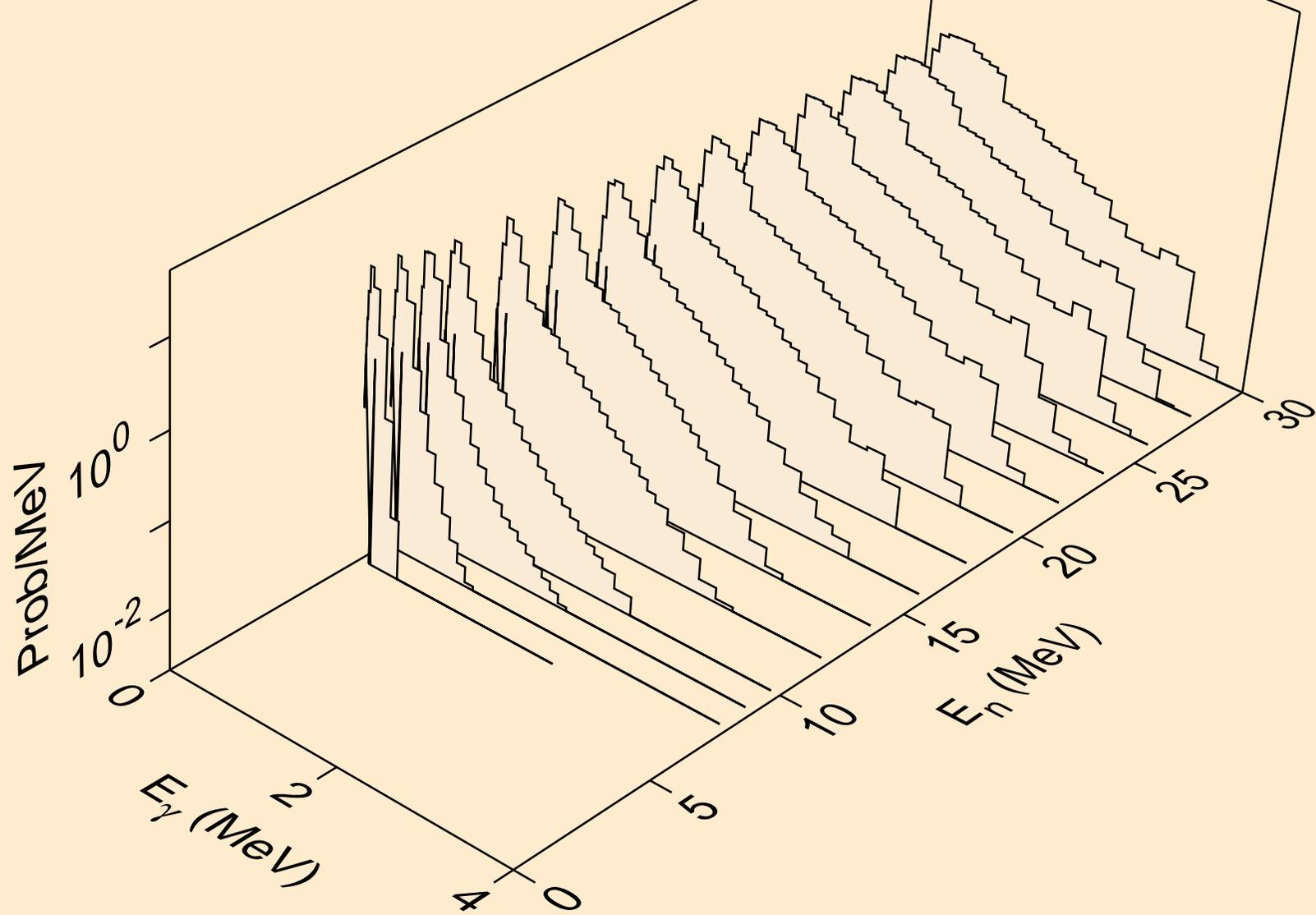Photon emission for (n,n*)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
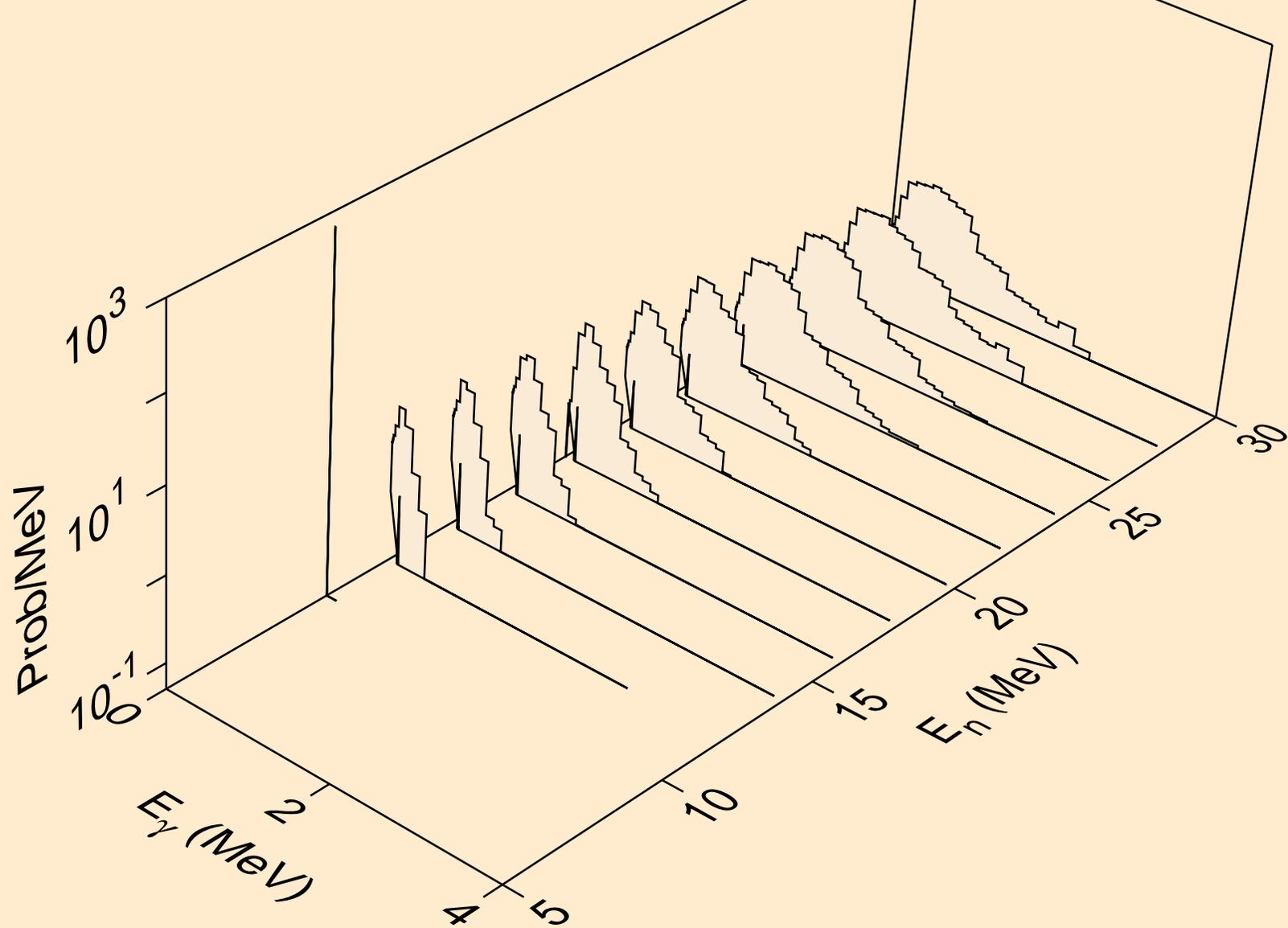Photon emission for (n,2n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,3n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,n*)p

ProbIMeV

10^0

10^{-2}

0

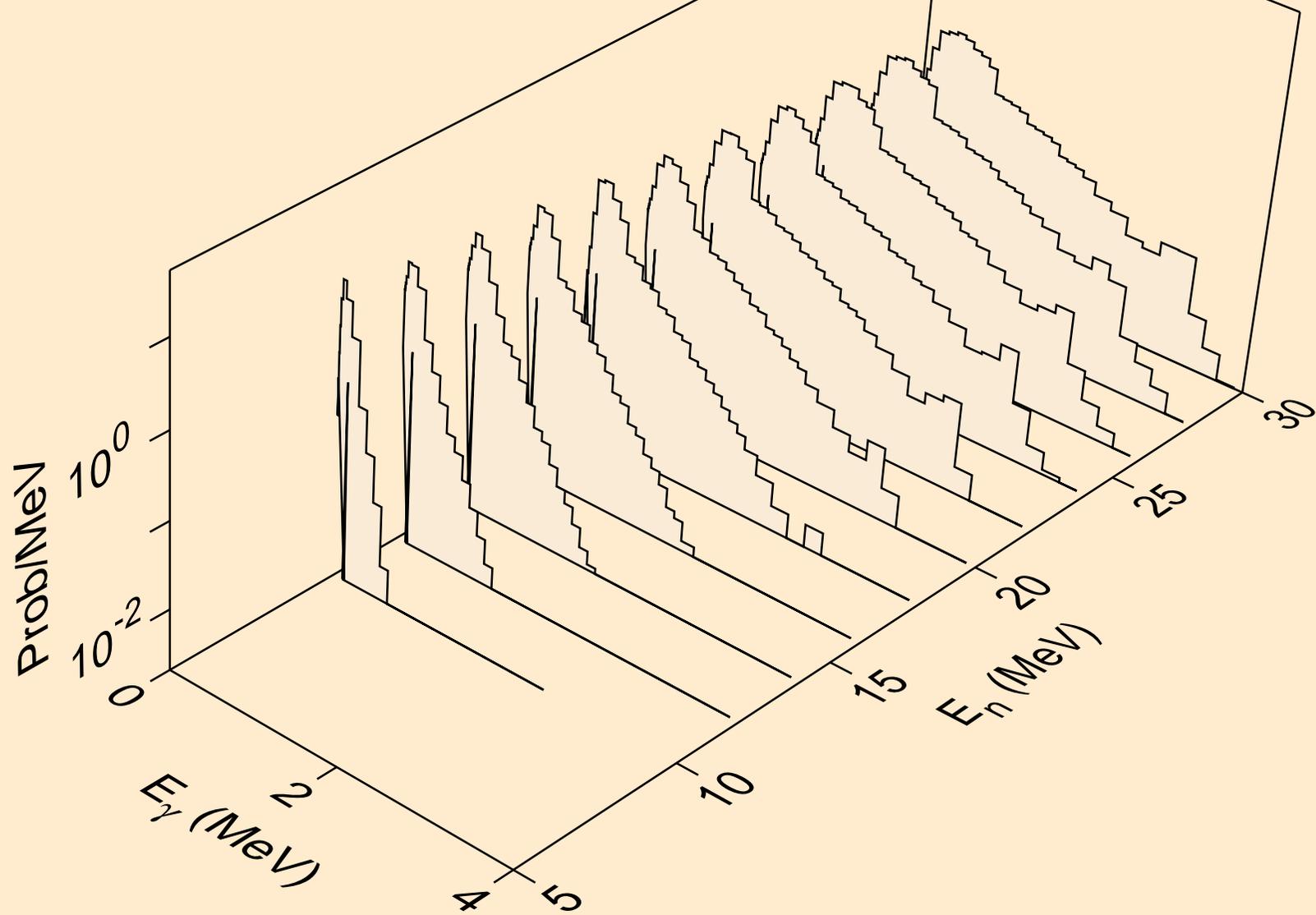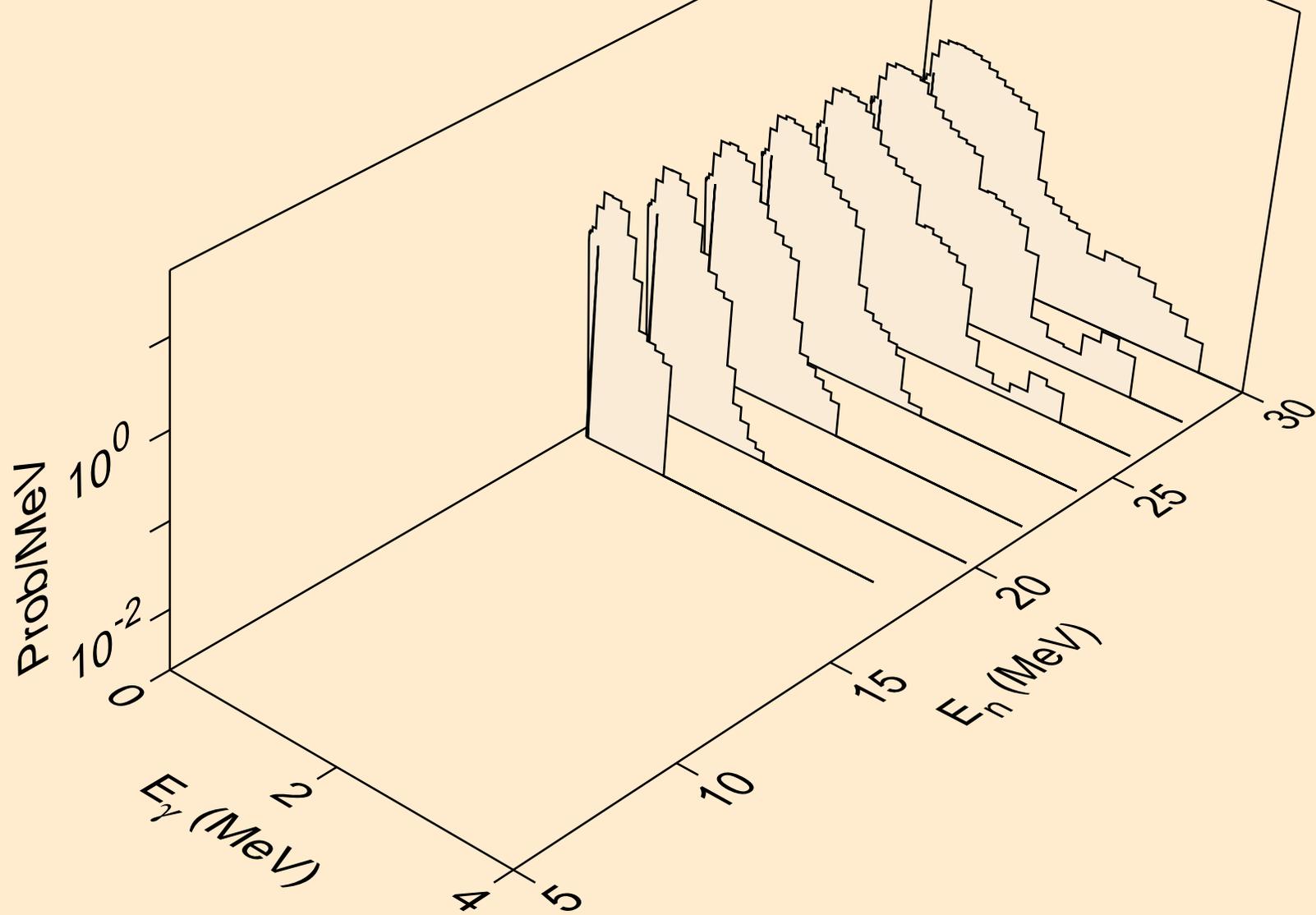E_γ (MeV)

2

4

0

5

10

15

20

25

30

E_n (MeV)

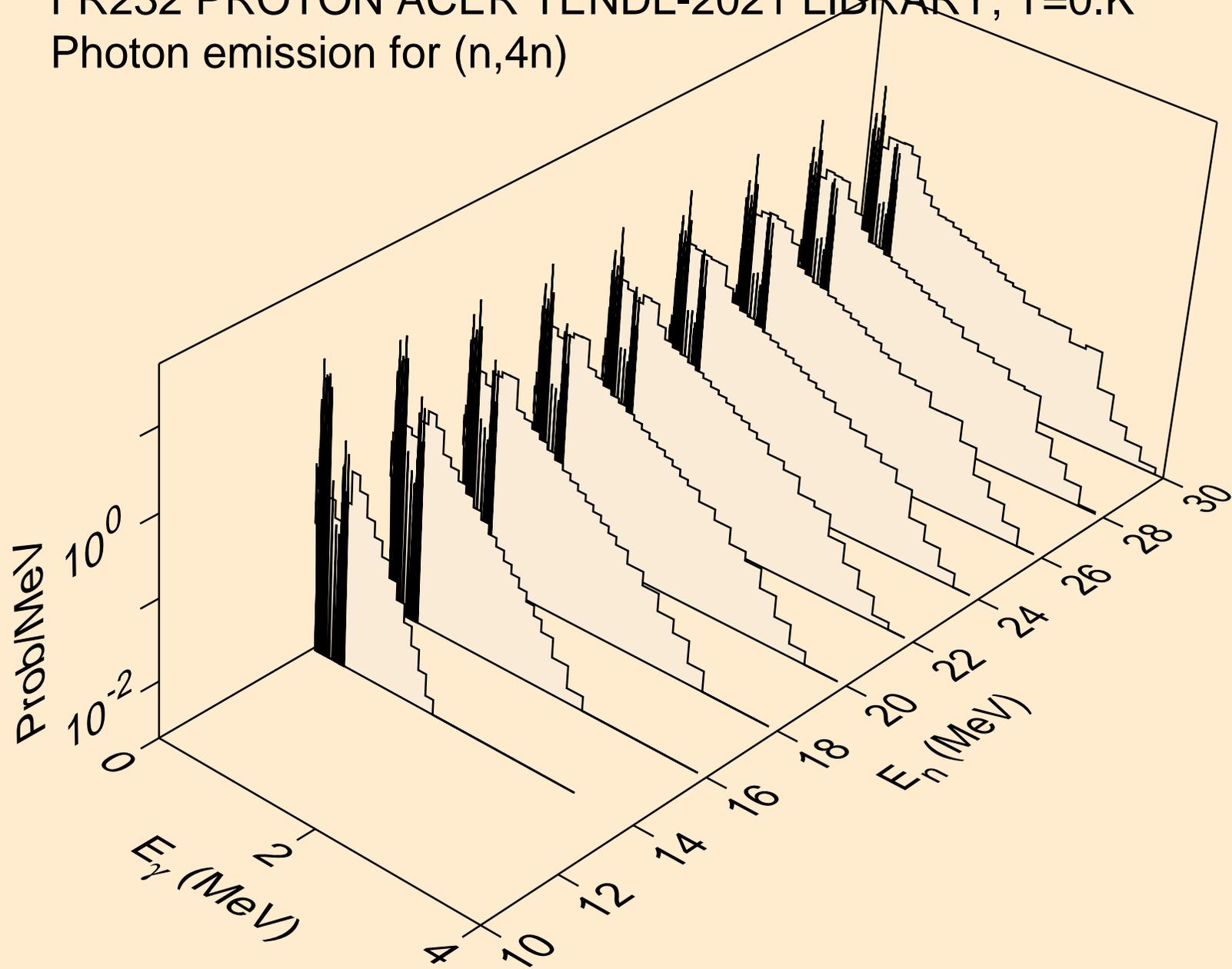FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,n*)d

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,n*)t

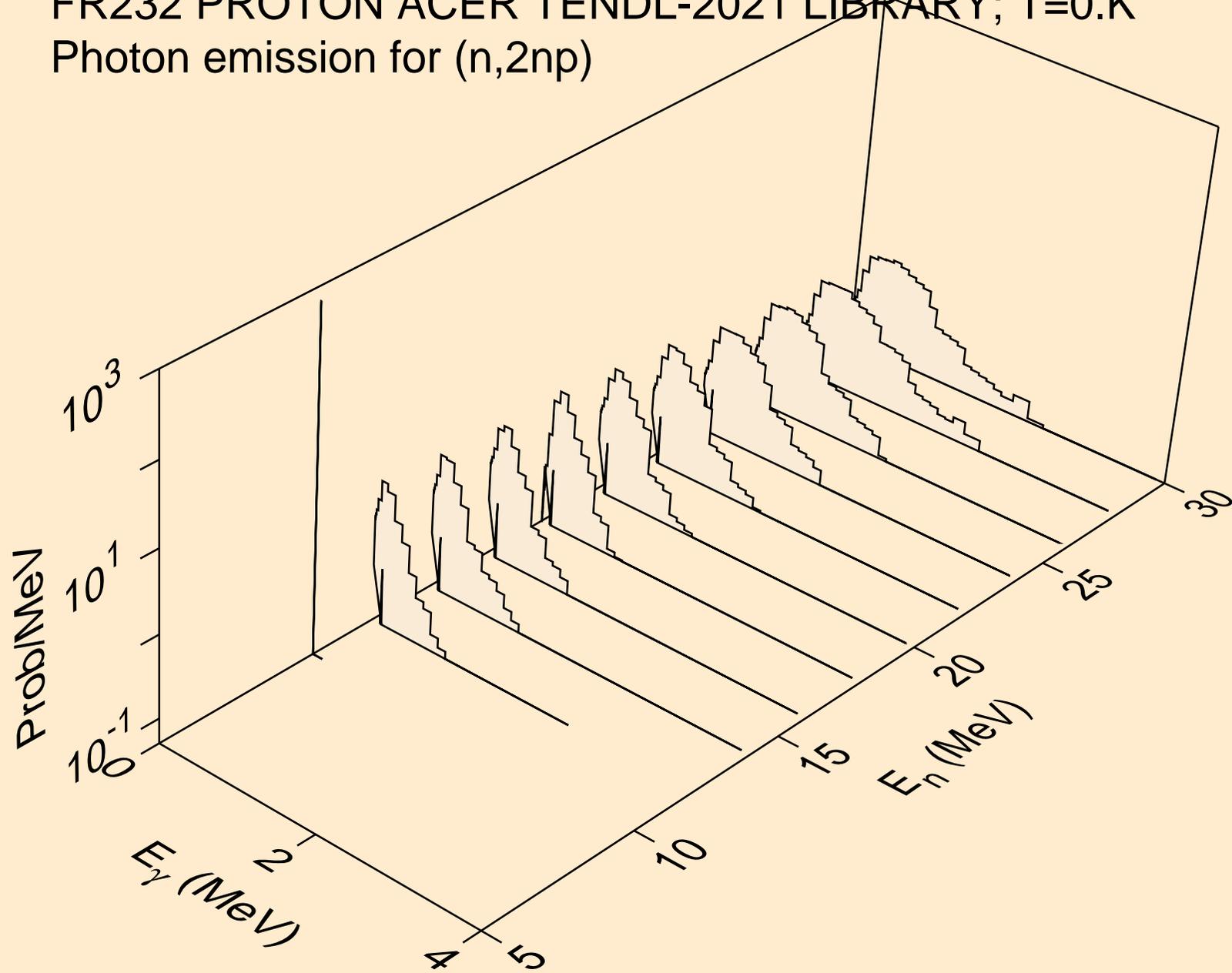FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,n*)he3

Prob/MeV

10^0

10^{-2}

0

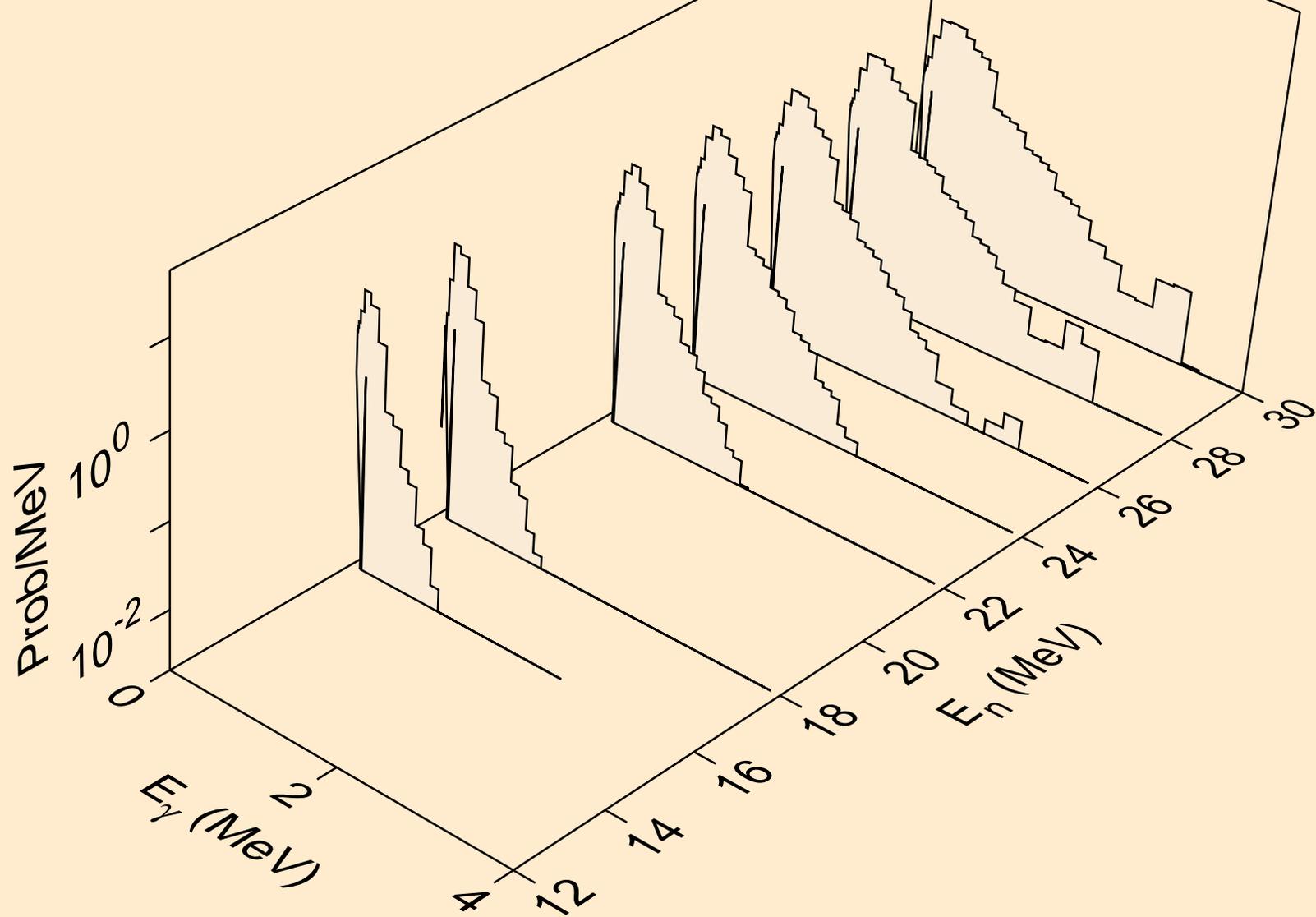E_γ (MeV)

2

4   5

10

15

20

25

30

E_n (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
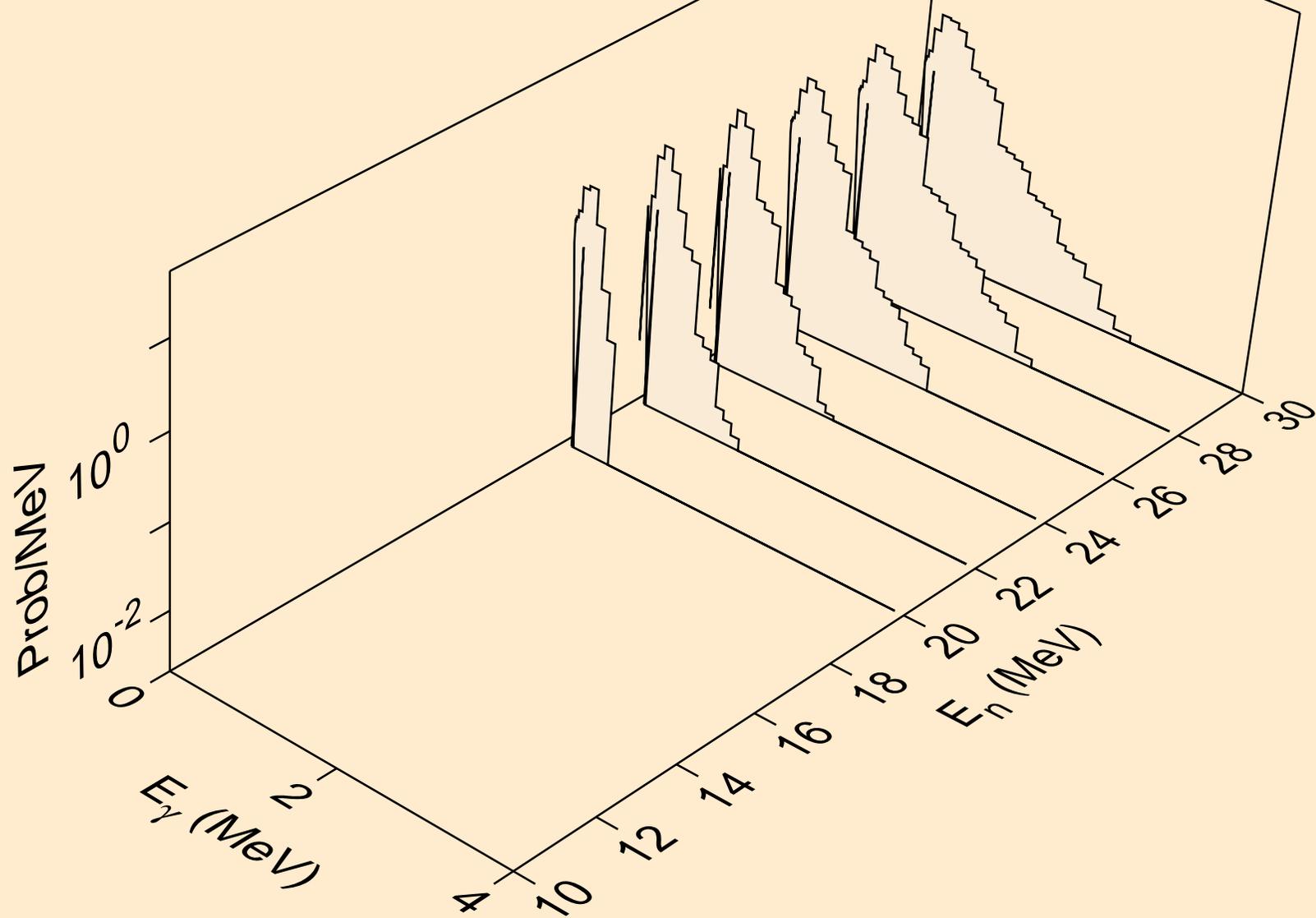Photon emission for (n,4n)

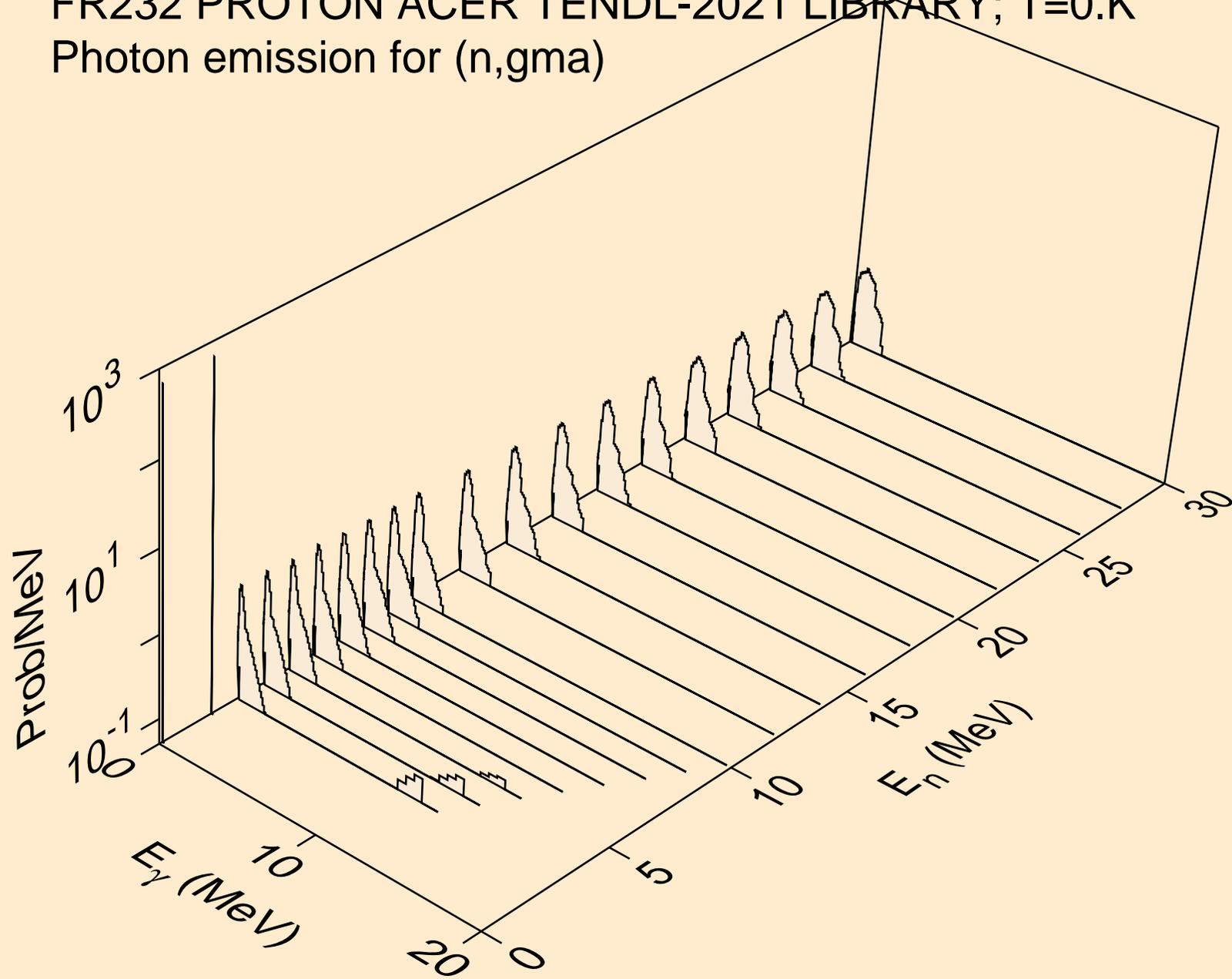FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,2np)

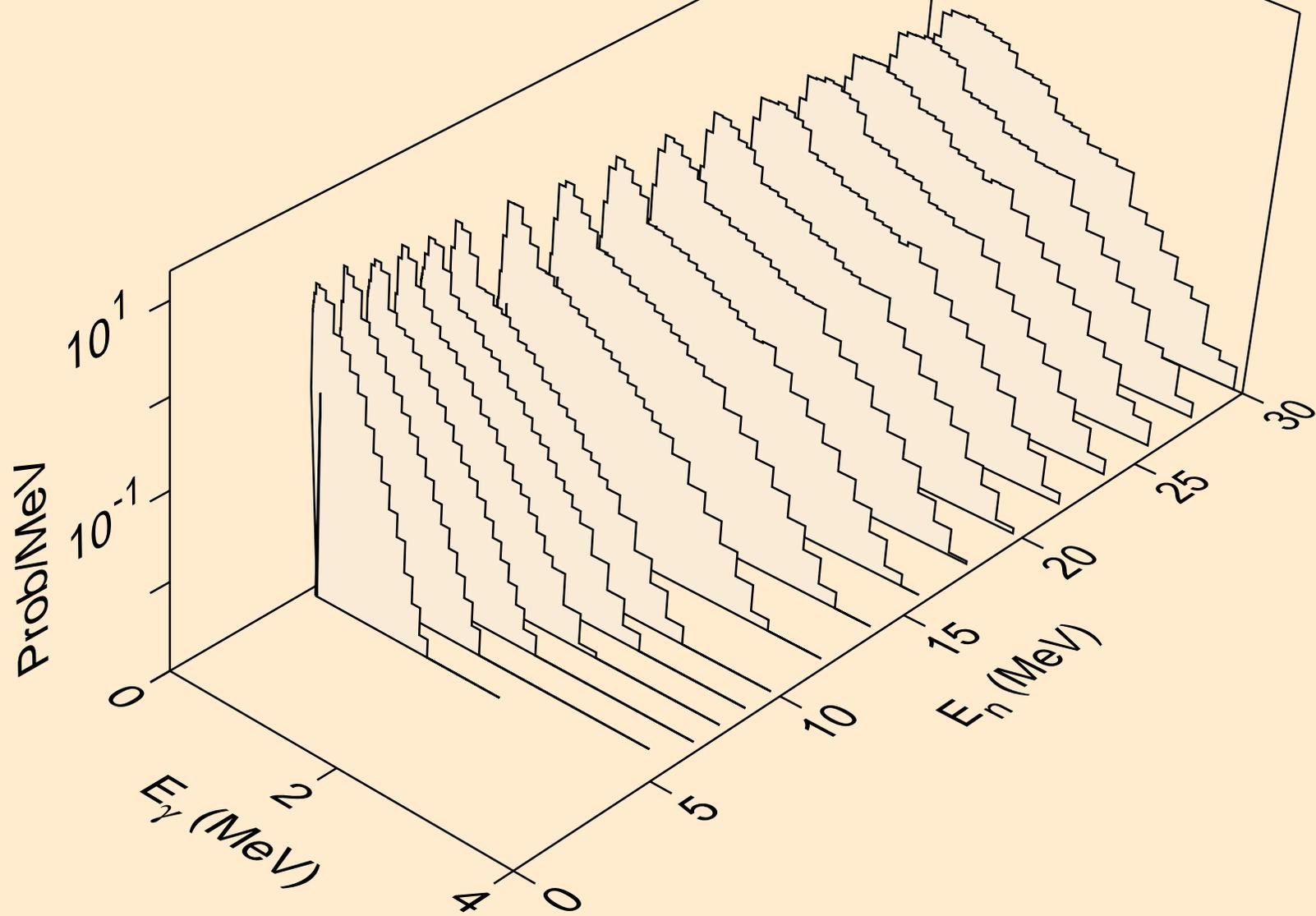FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,3np)

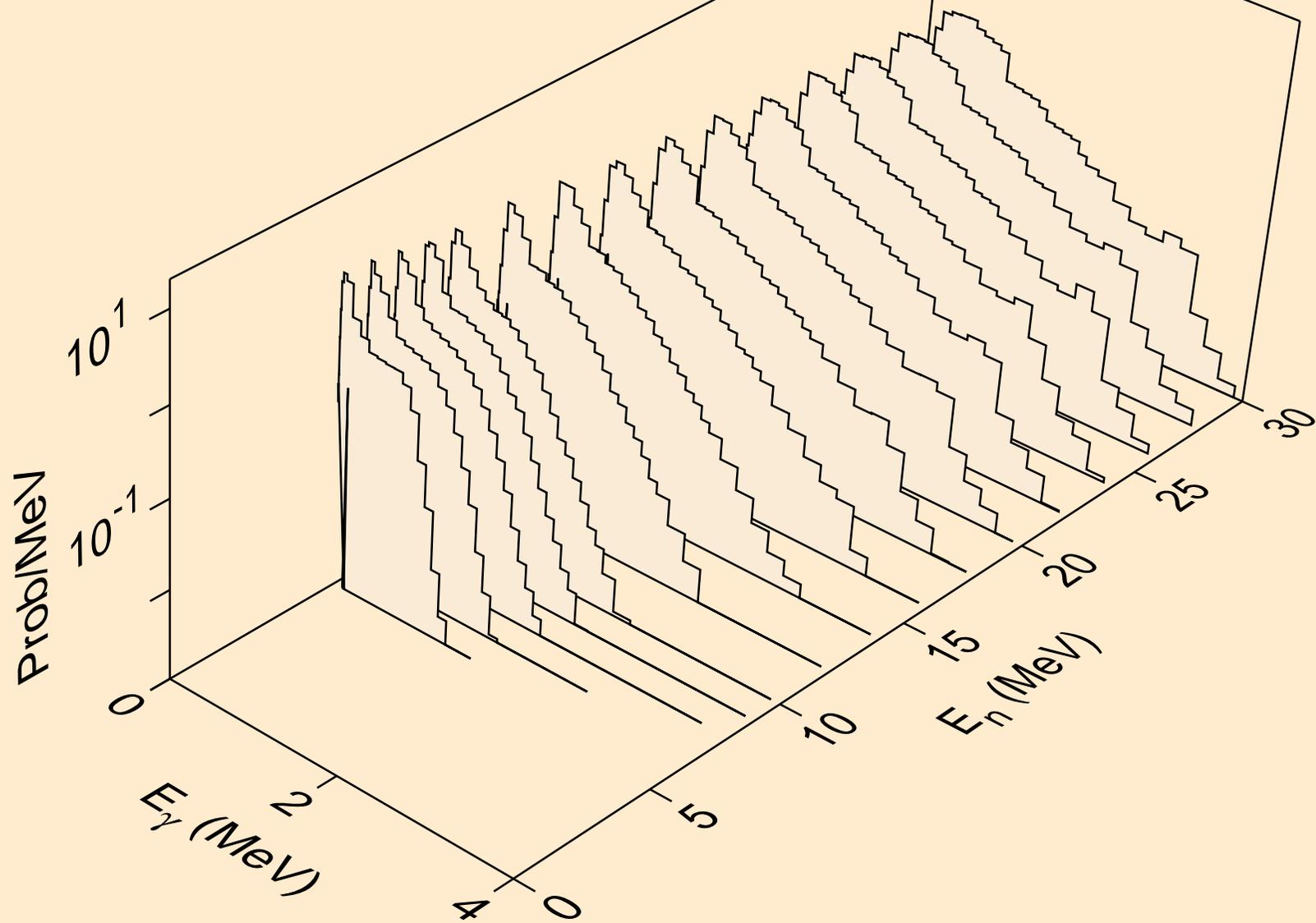FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,2np)

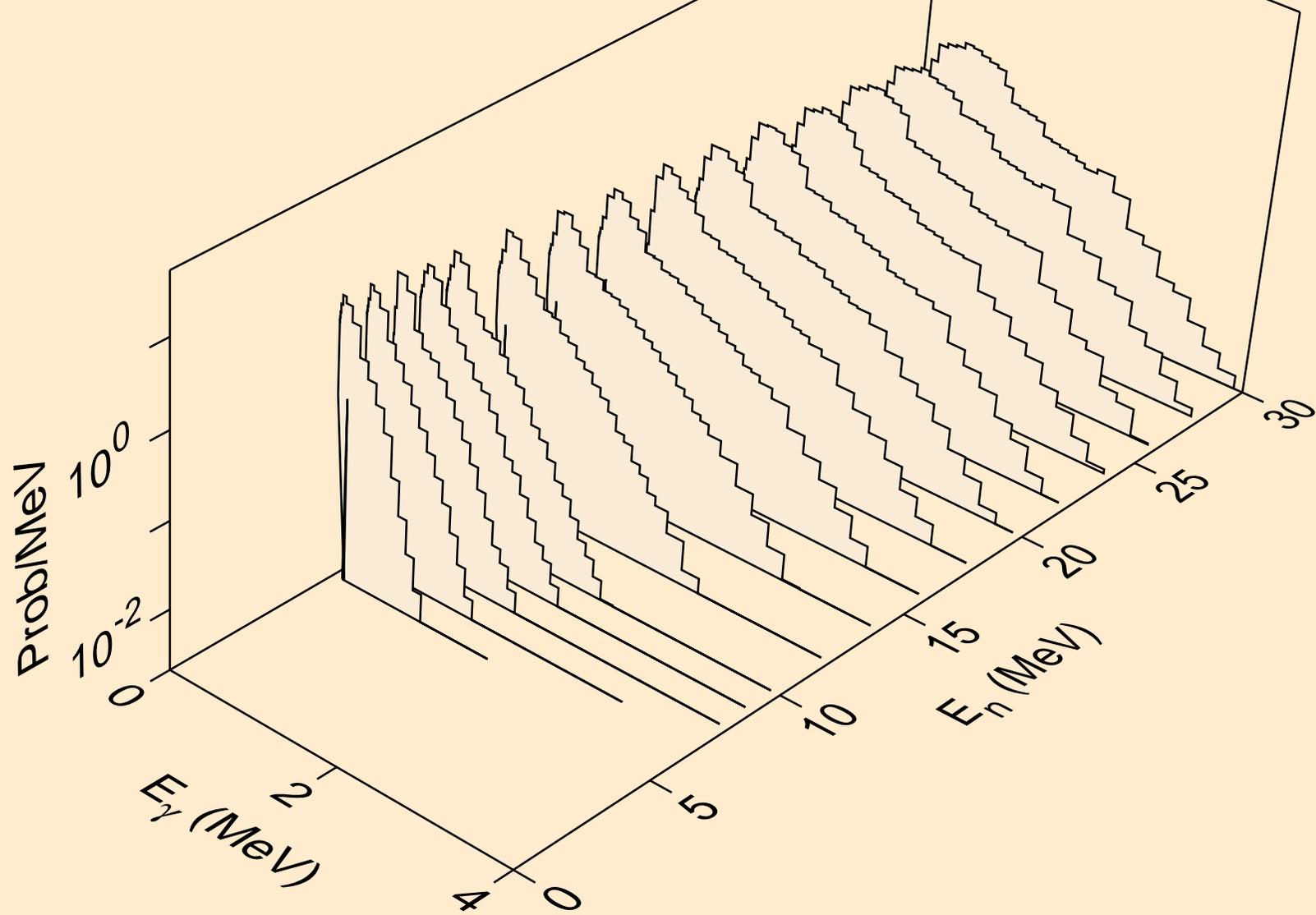FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,gma)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for inelastic

ProbIMeV
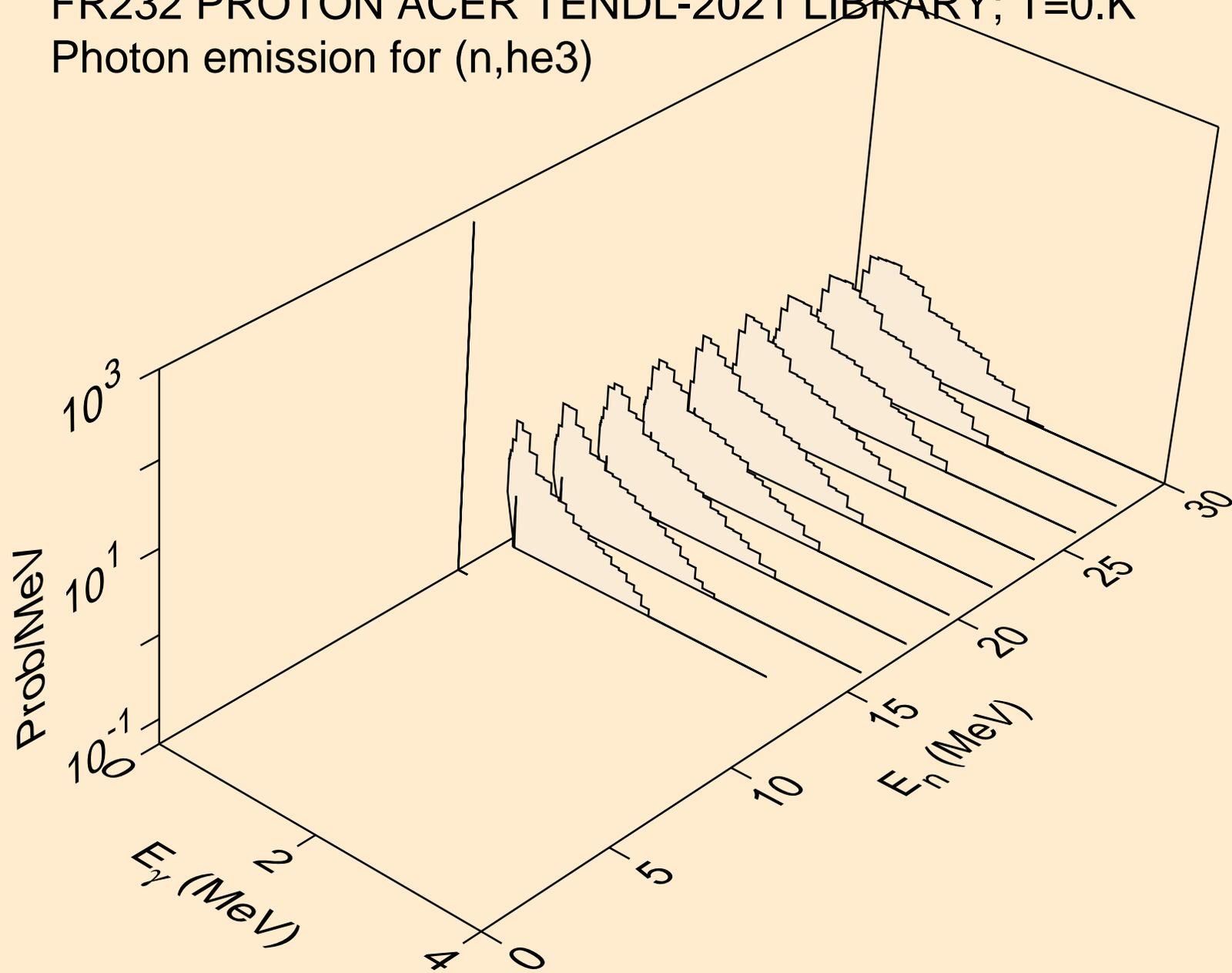
E_γ (MeV)

E_n (MeV)

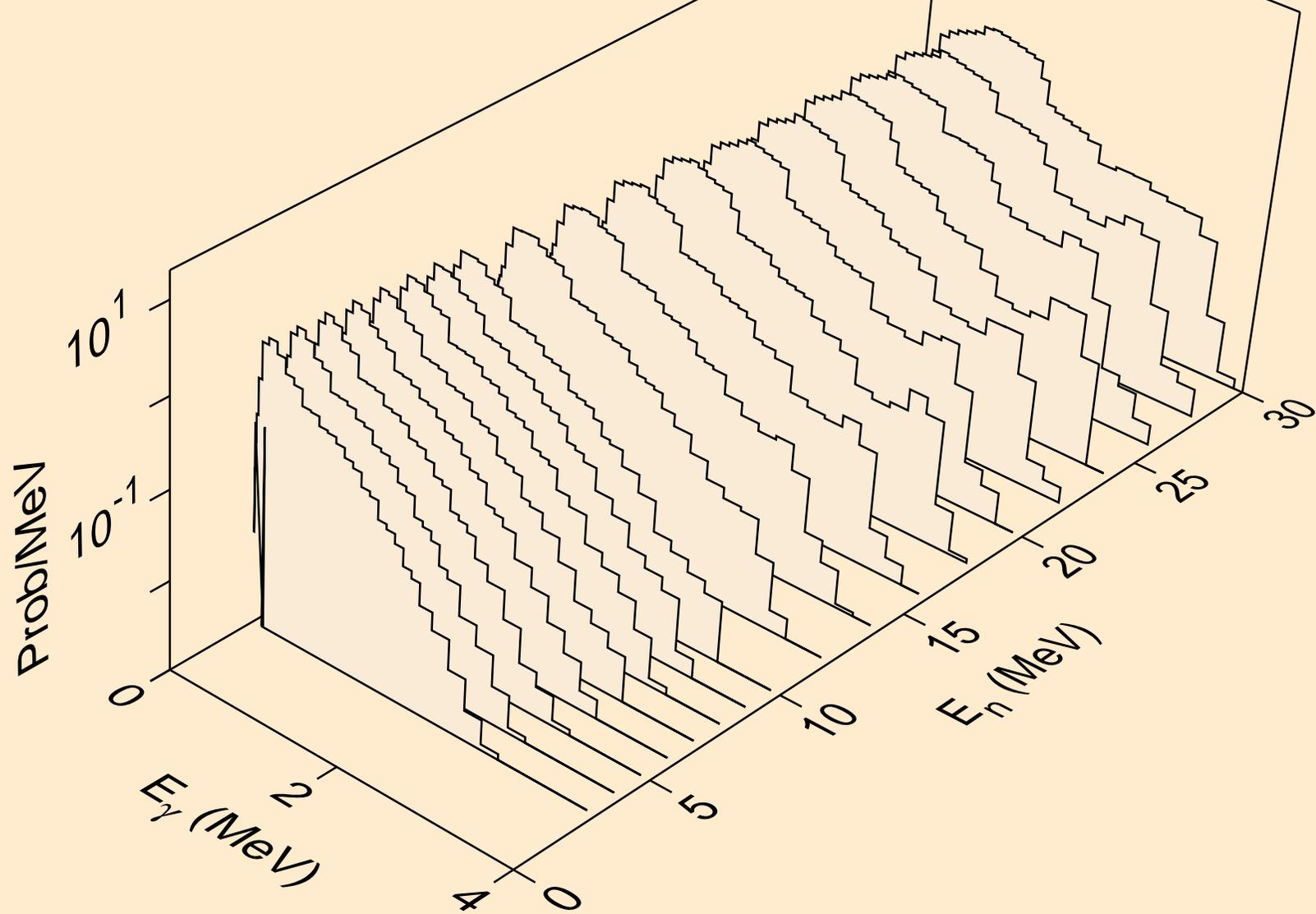FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,d)

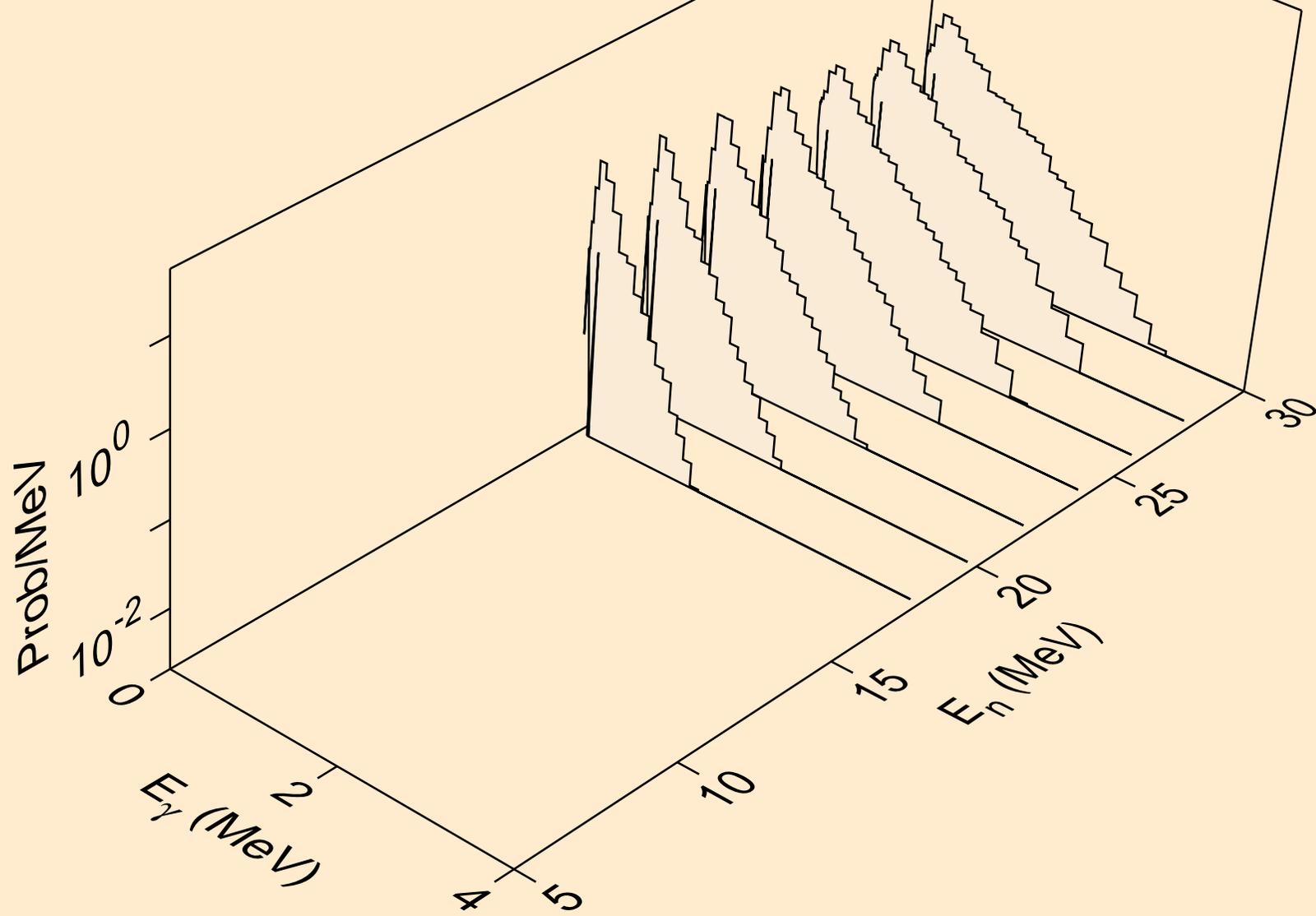FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,t)

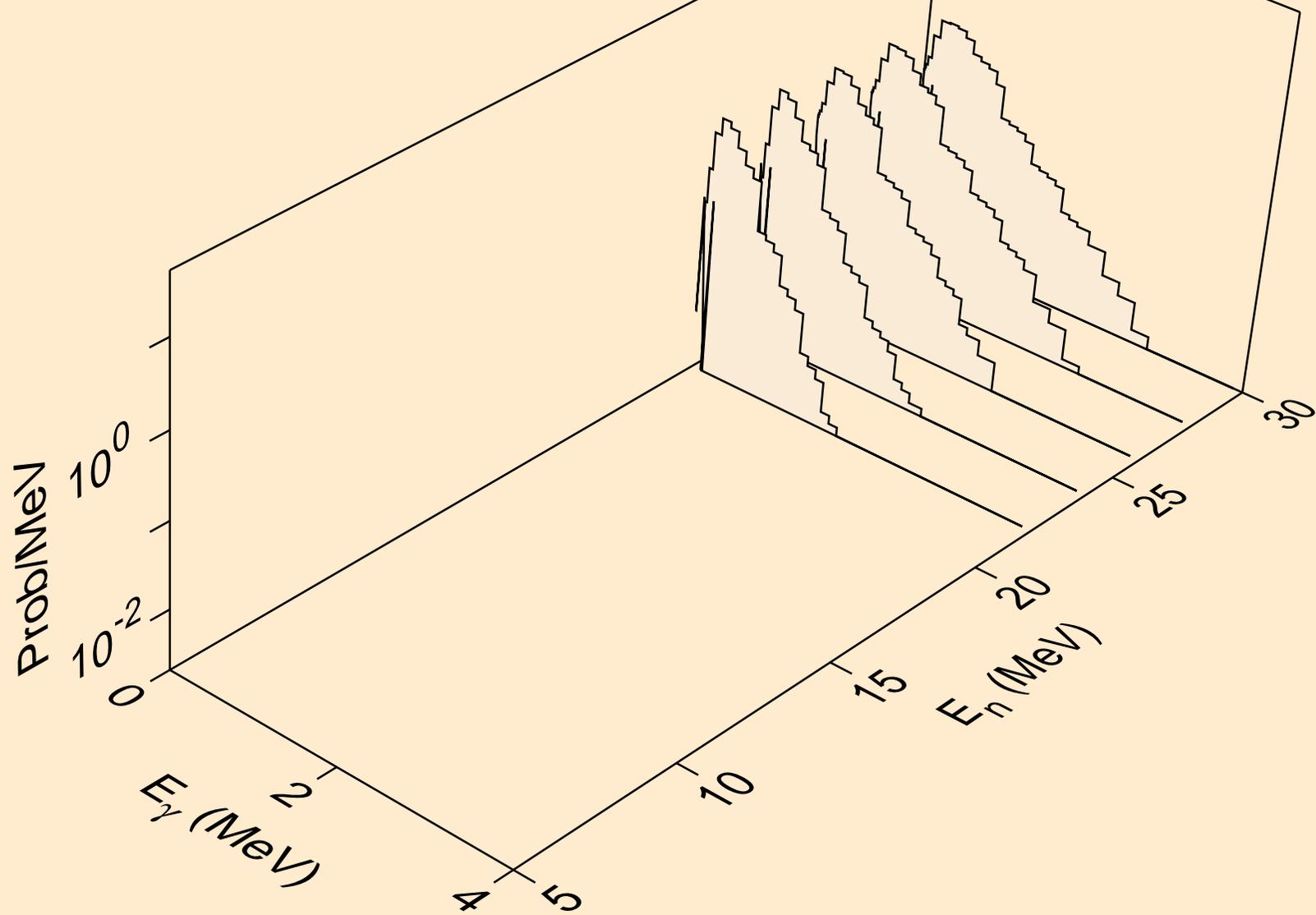FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,he3)

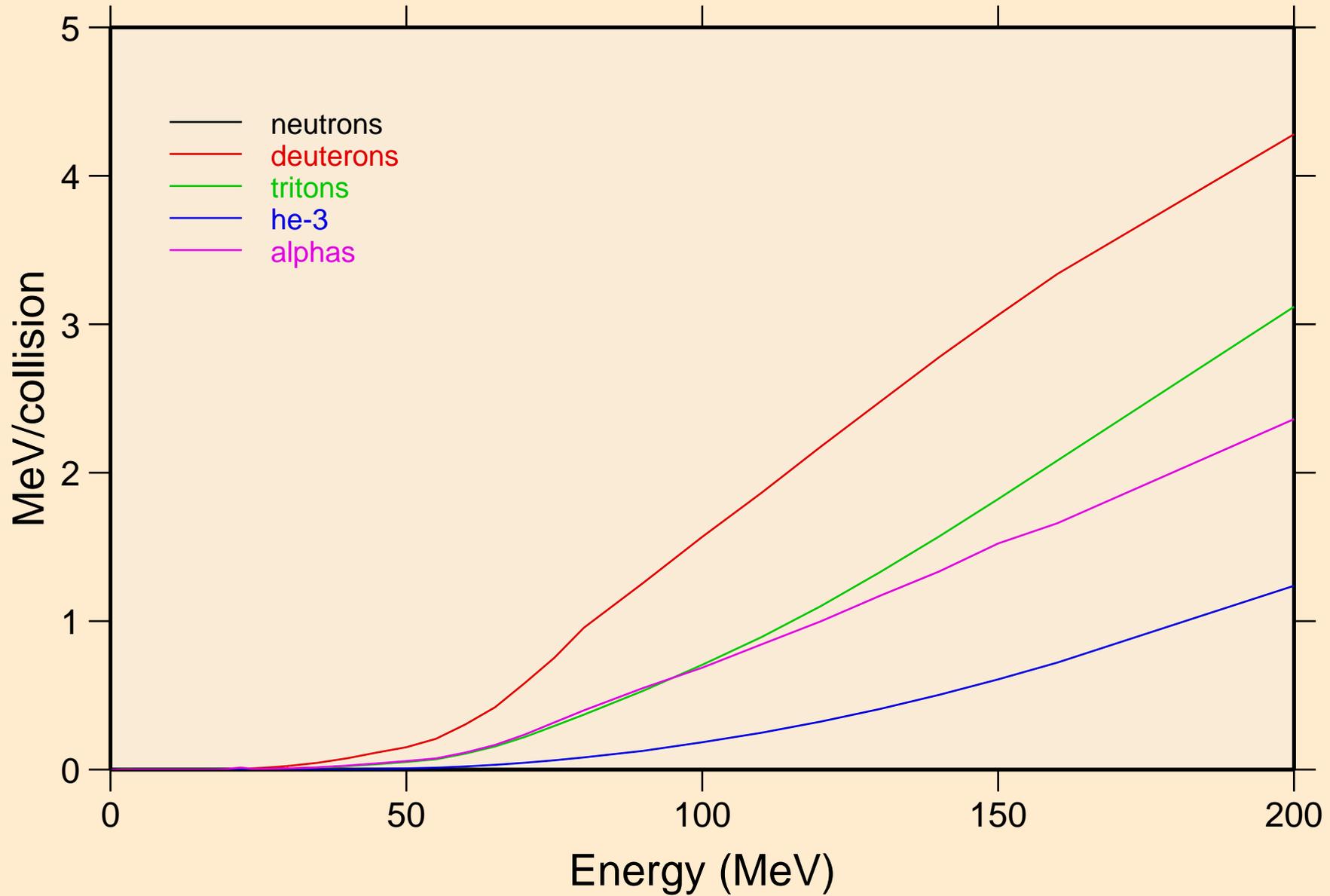FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,a)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,2p)

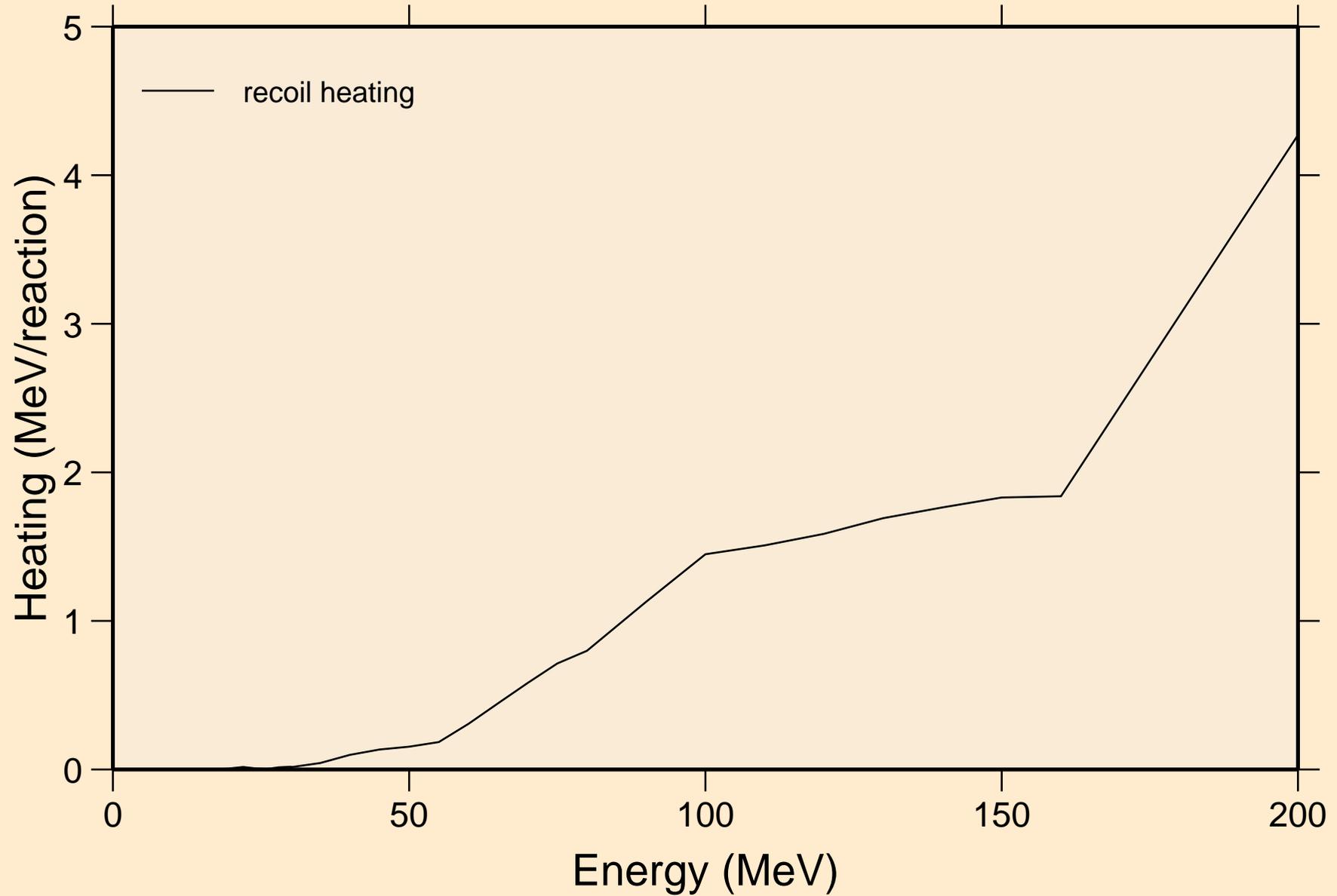FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Photon emission for (n,pd)

ProbMeV

10^0

10^{-2}

0

E_γ (MeV)

2

4   5

10

15

20

25

30

E_n (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Particle heating contributions

- neutrons
- deuterons
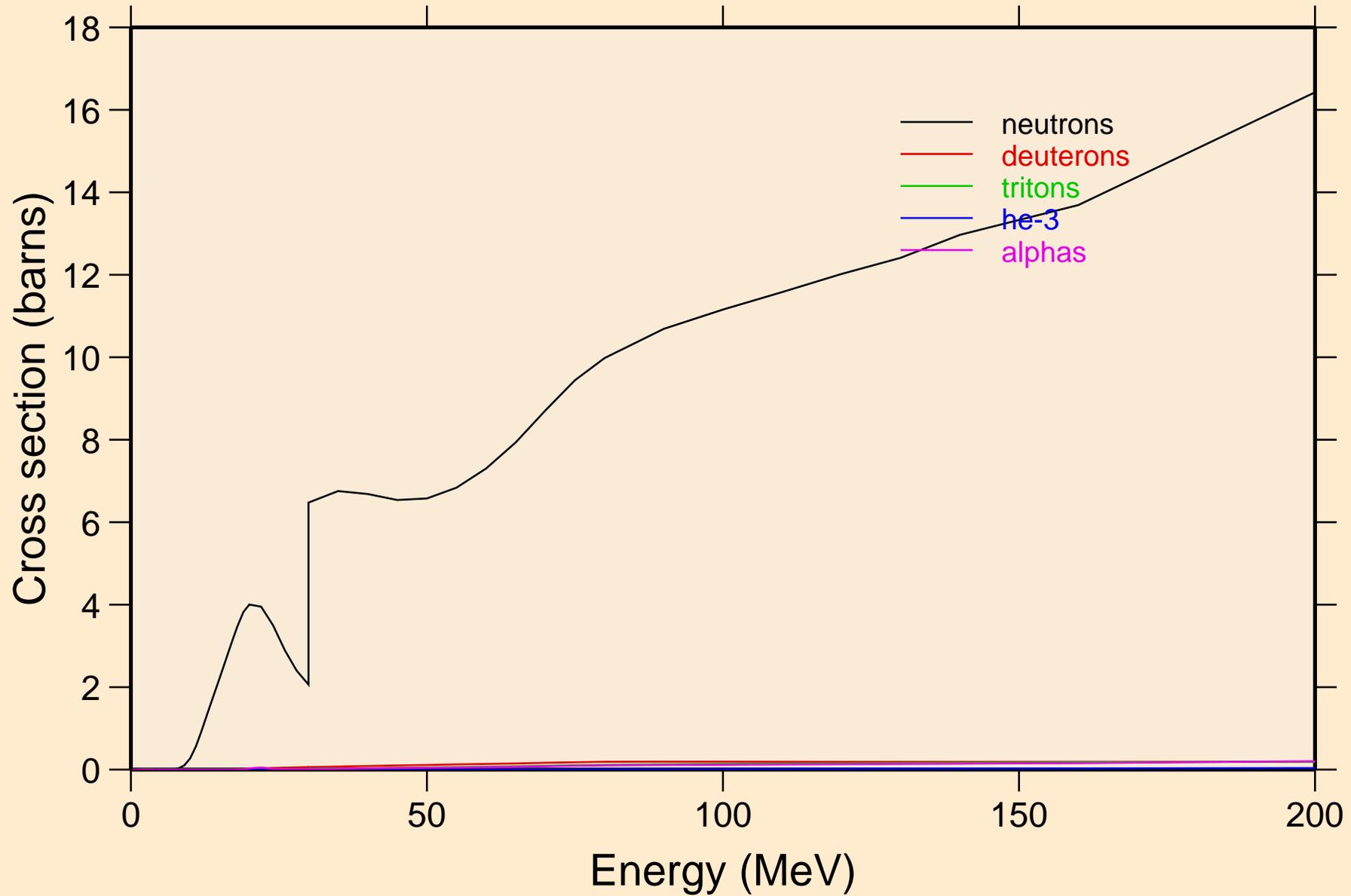- tritons
- he-3
- alphas

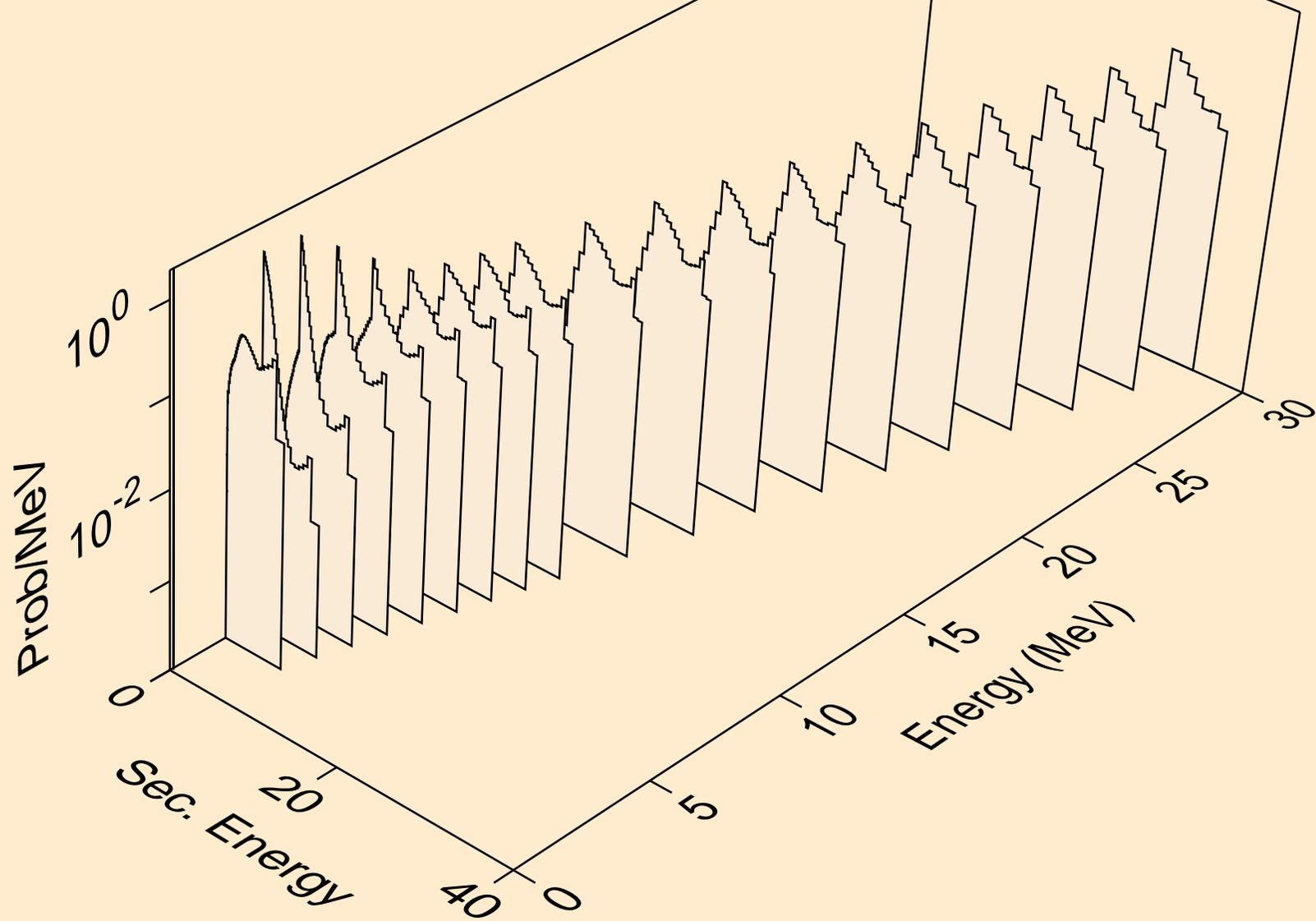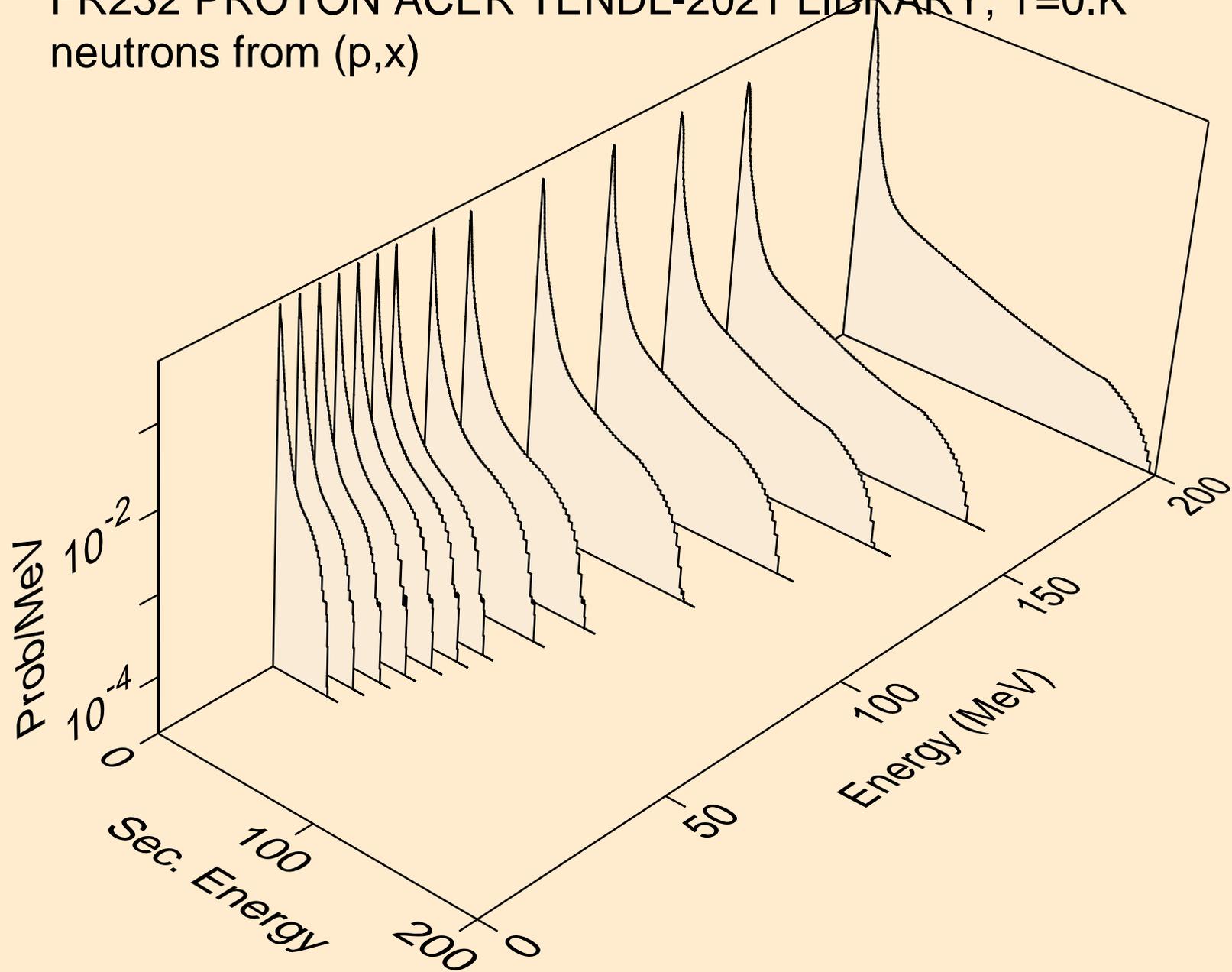FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Recoil Heating

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
Particle production cross sections

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,n)

ProbIMeV

Sec. Energy

Energy (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,x)

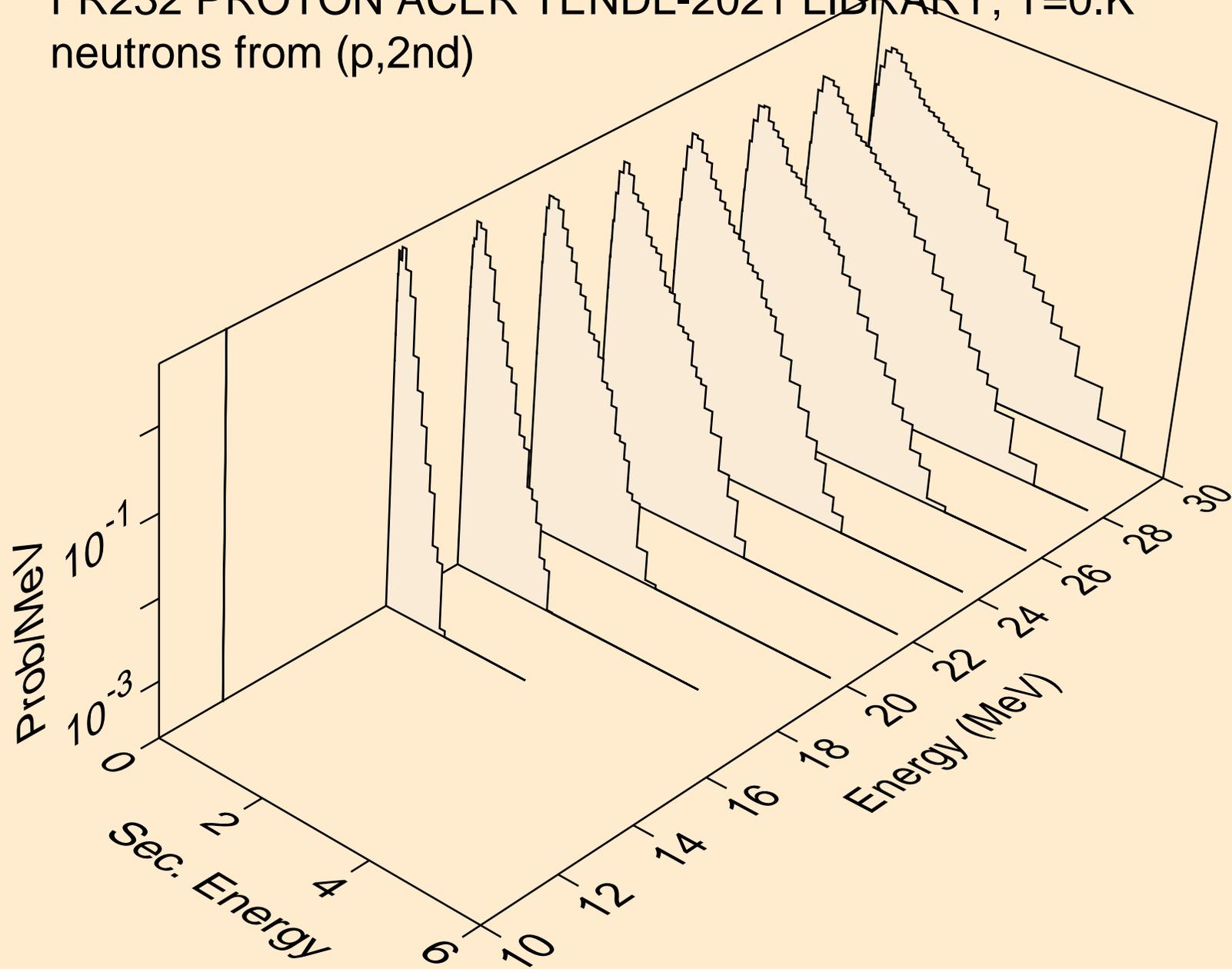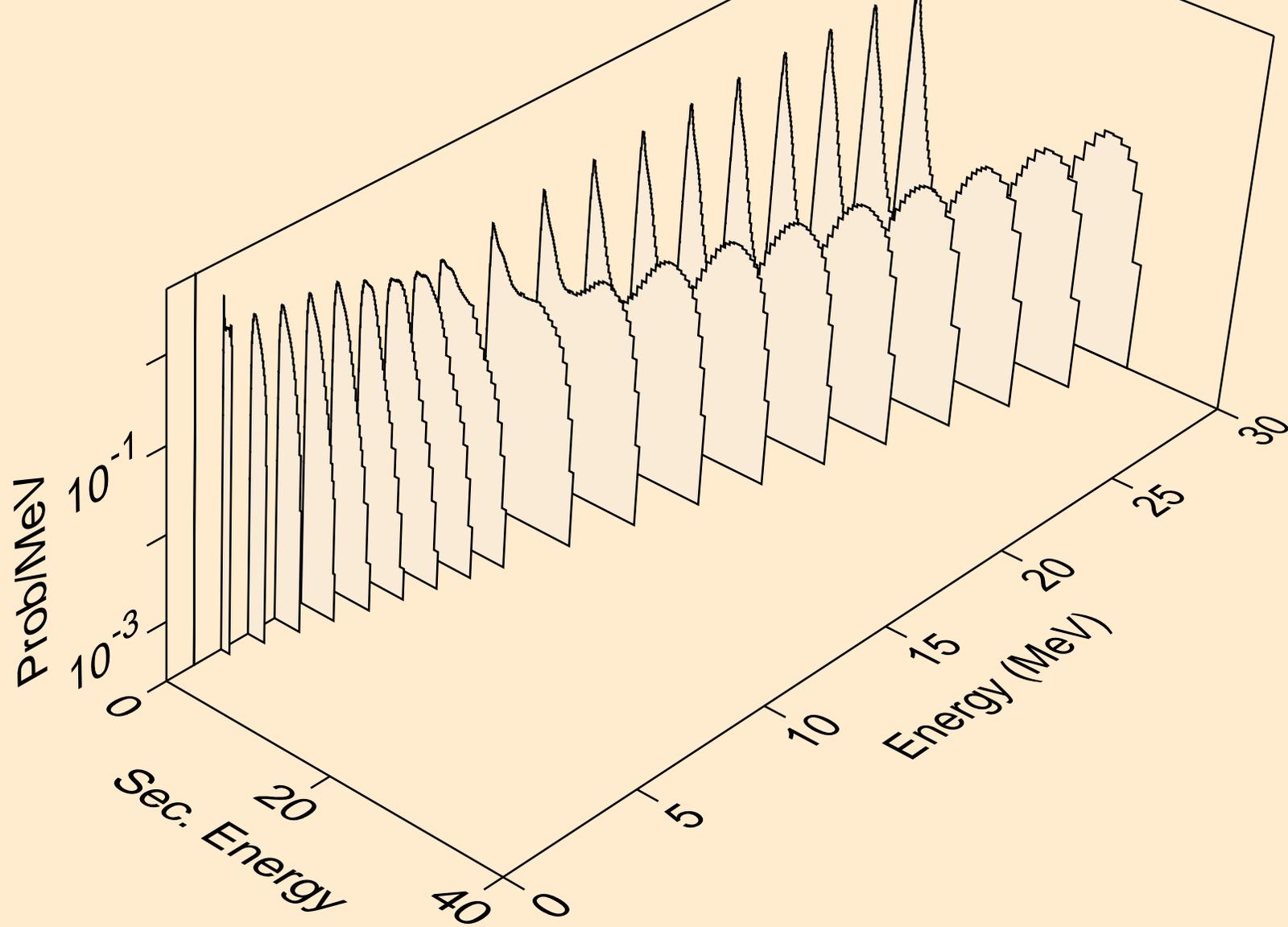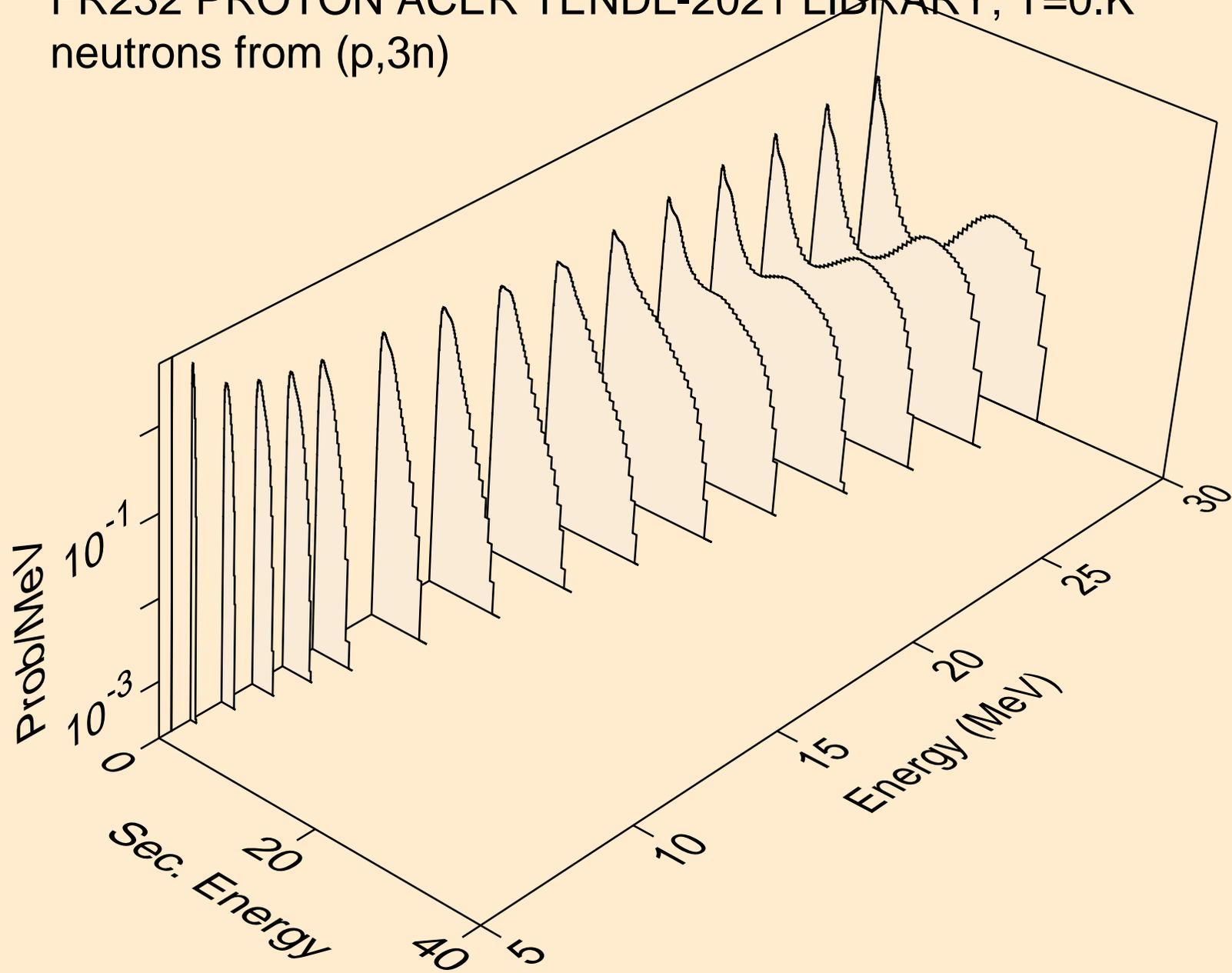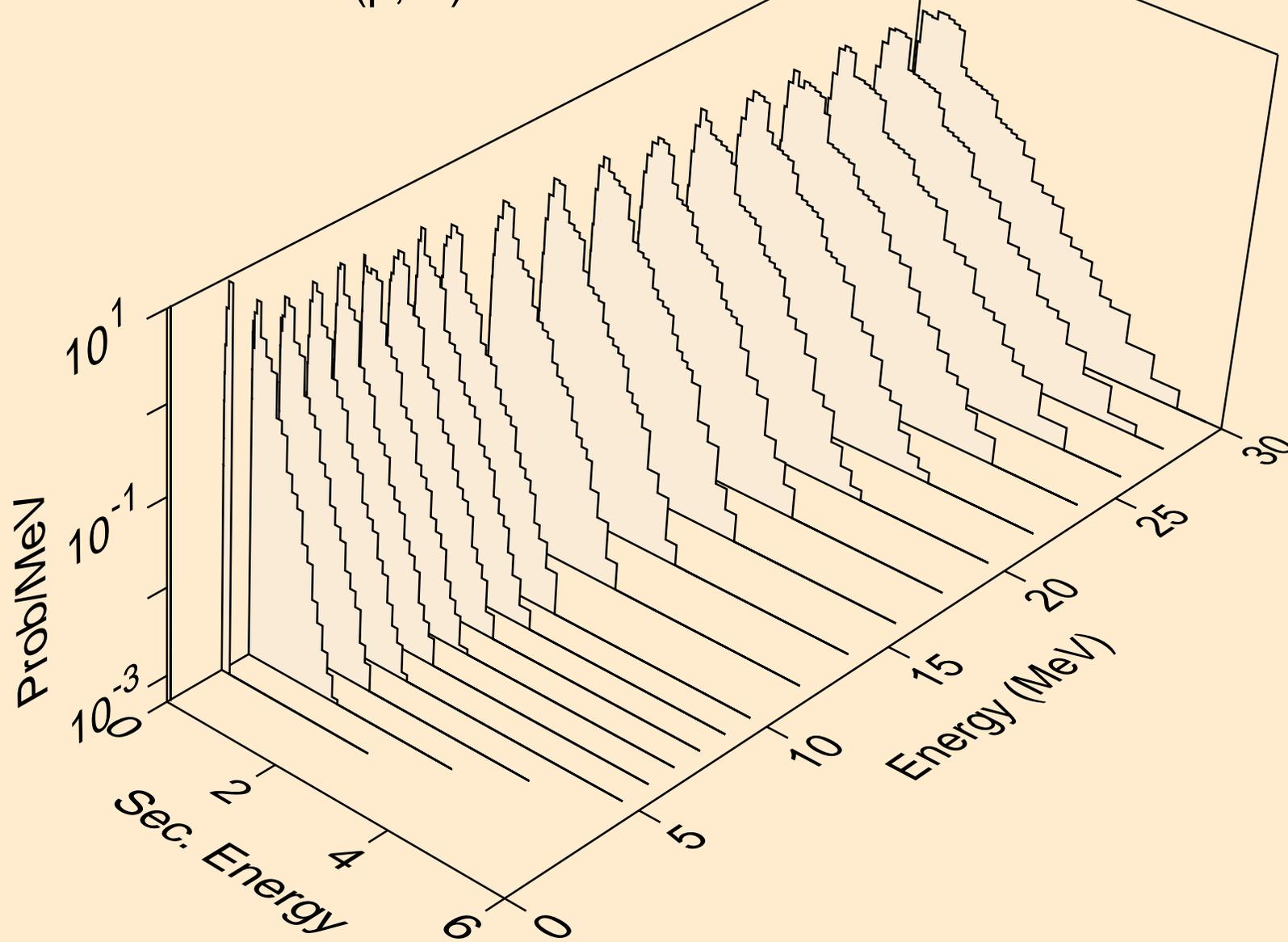FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,2nd)

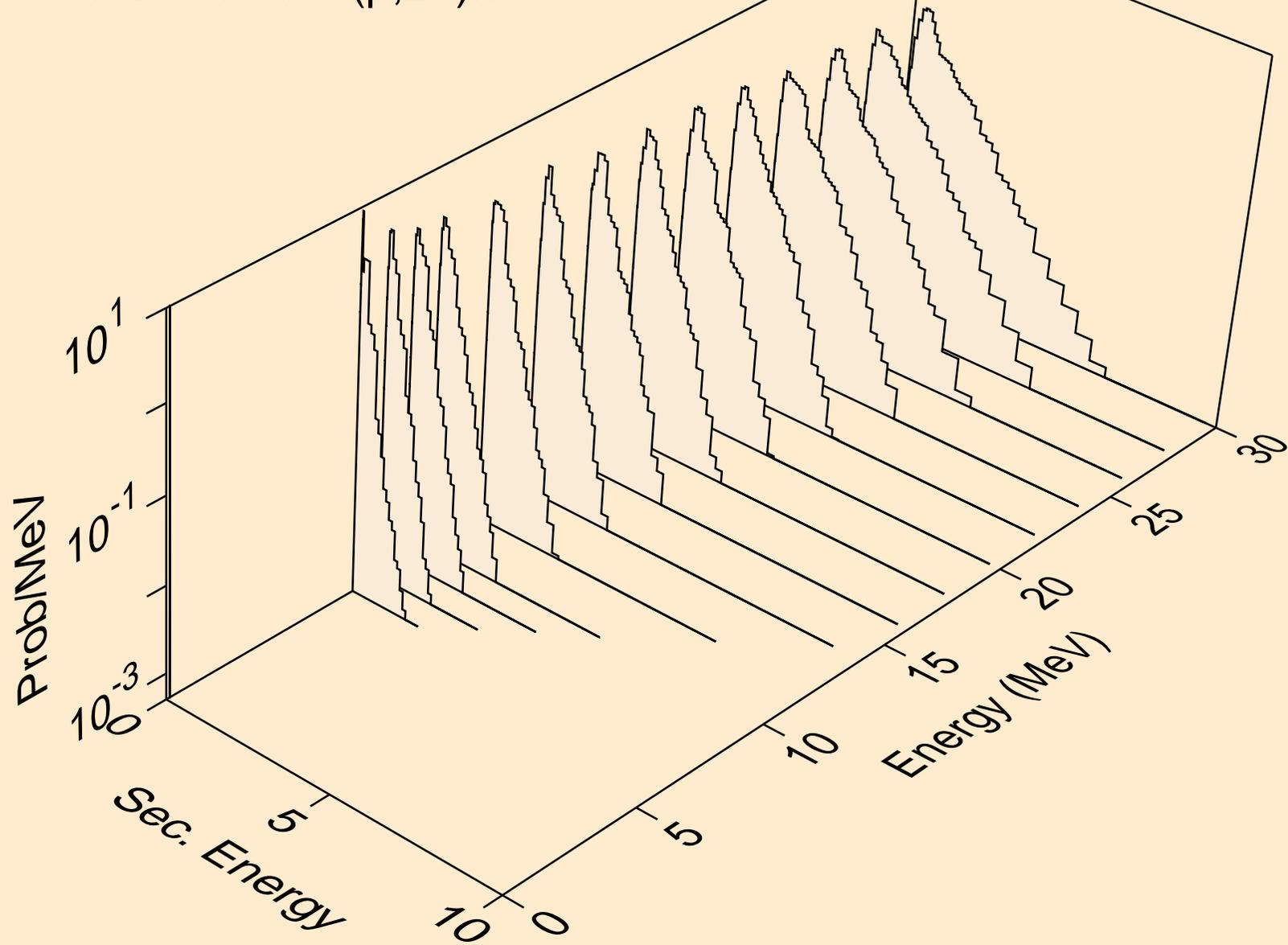FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,2n)

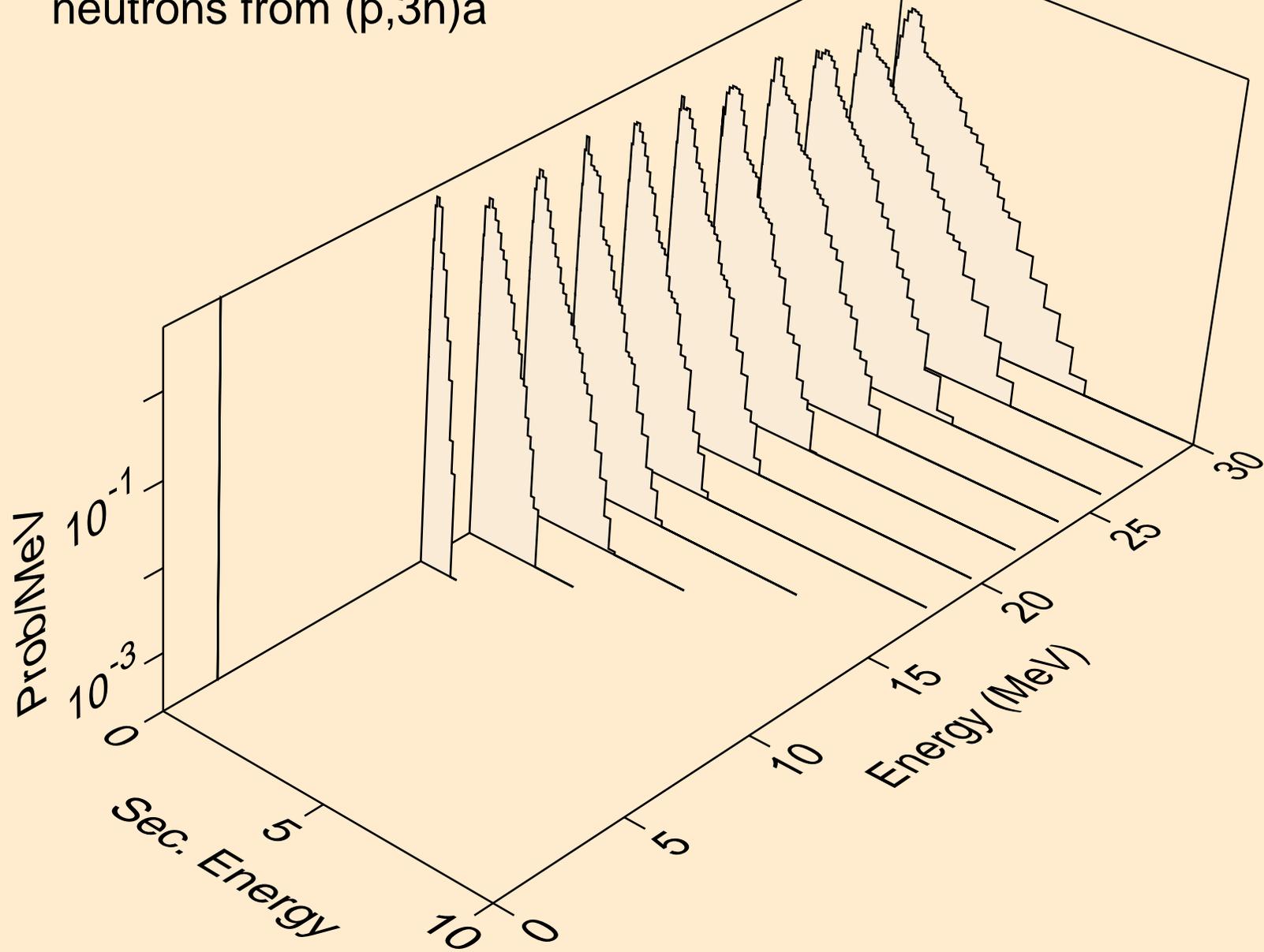FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,3n)

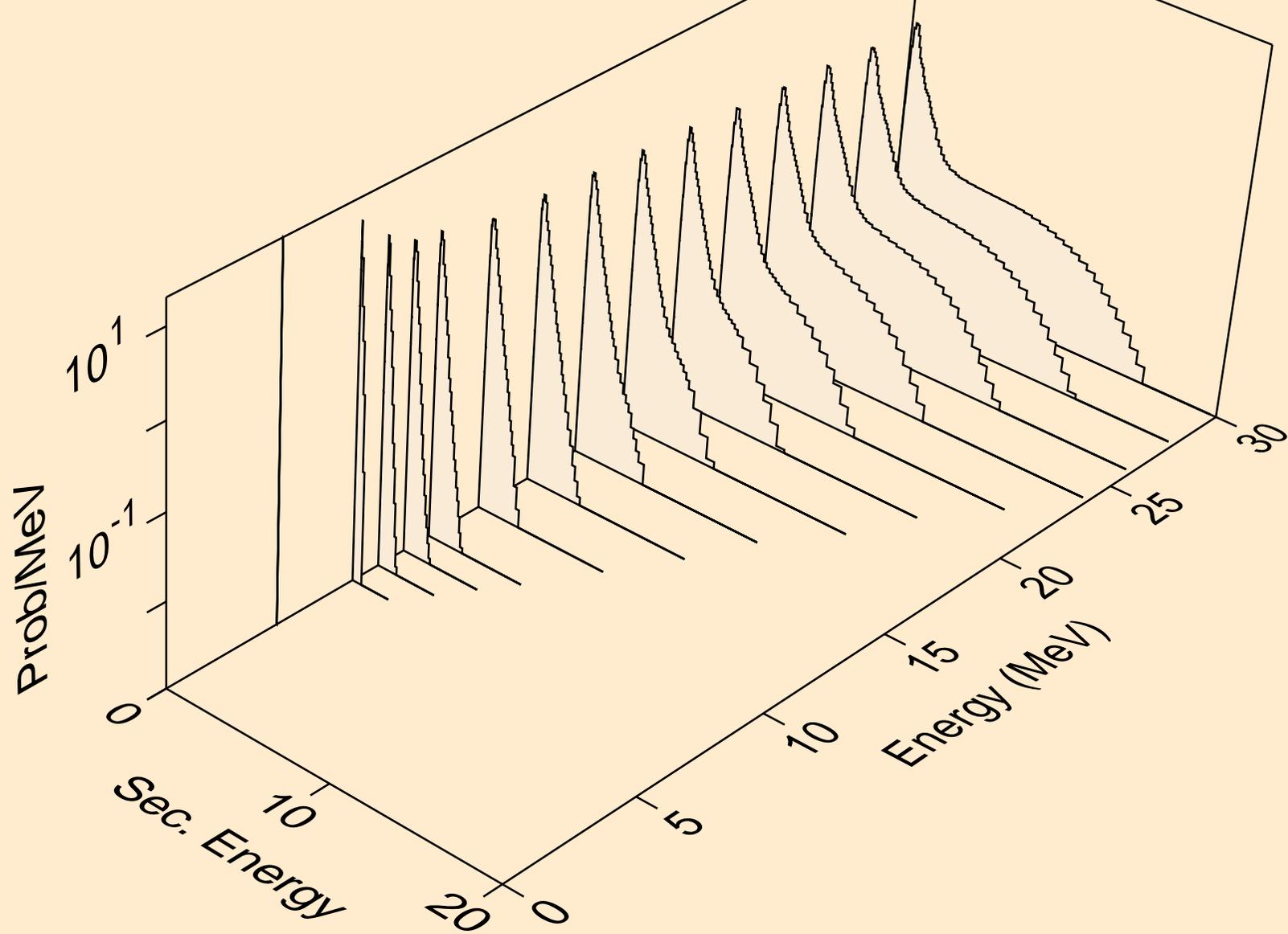FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,n*)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
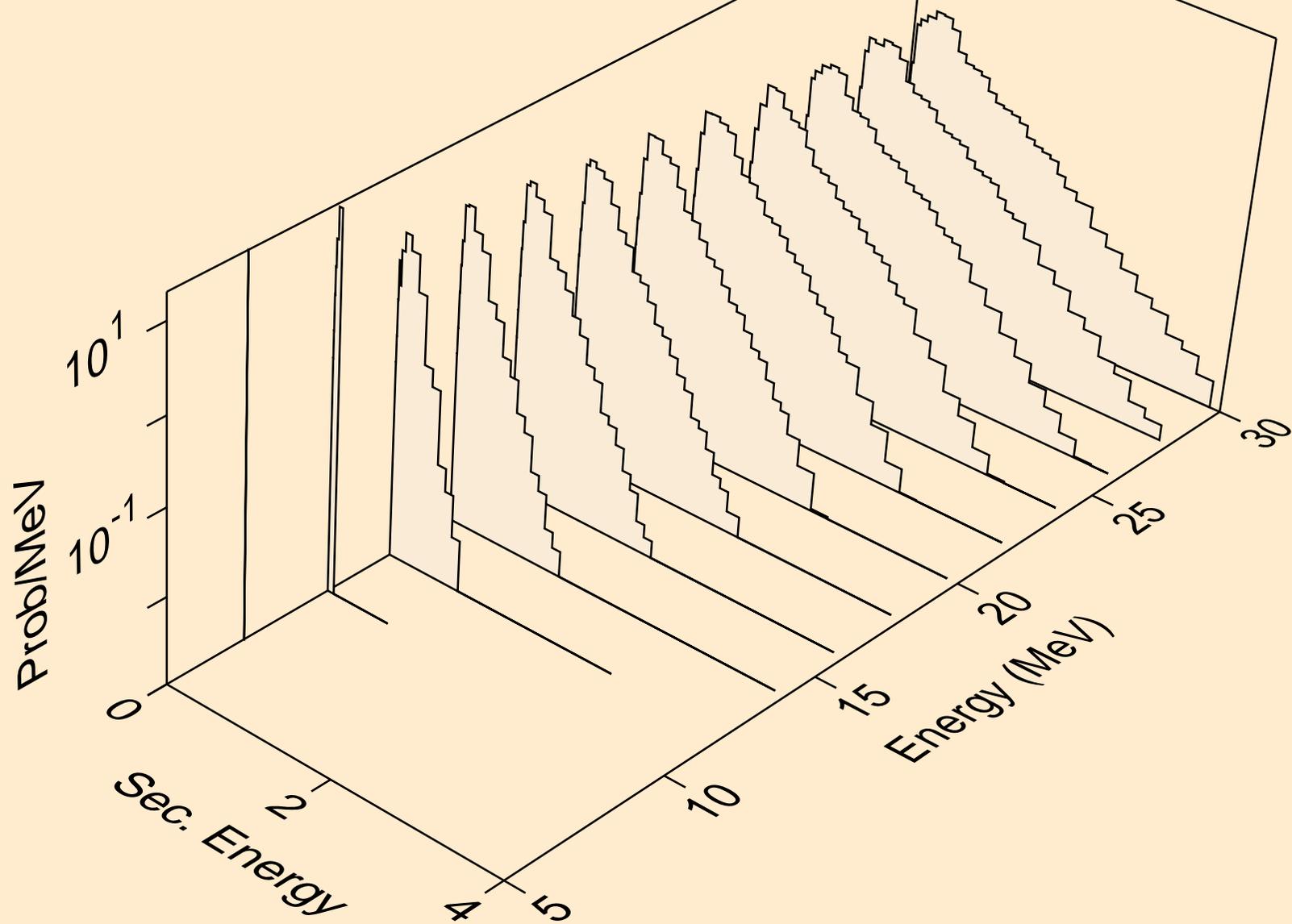neutrons from (p,2n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
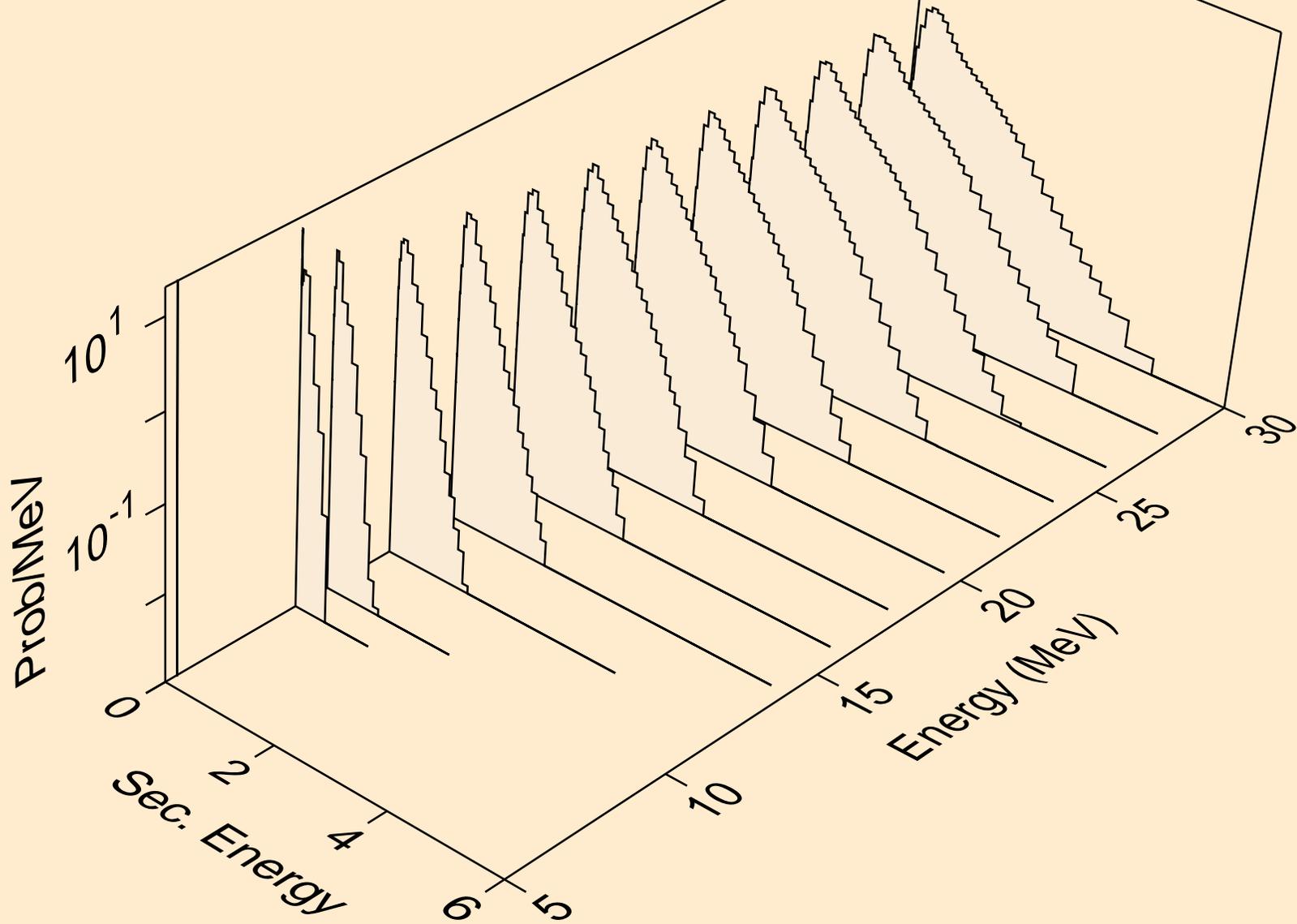neutrons from (p,3n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
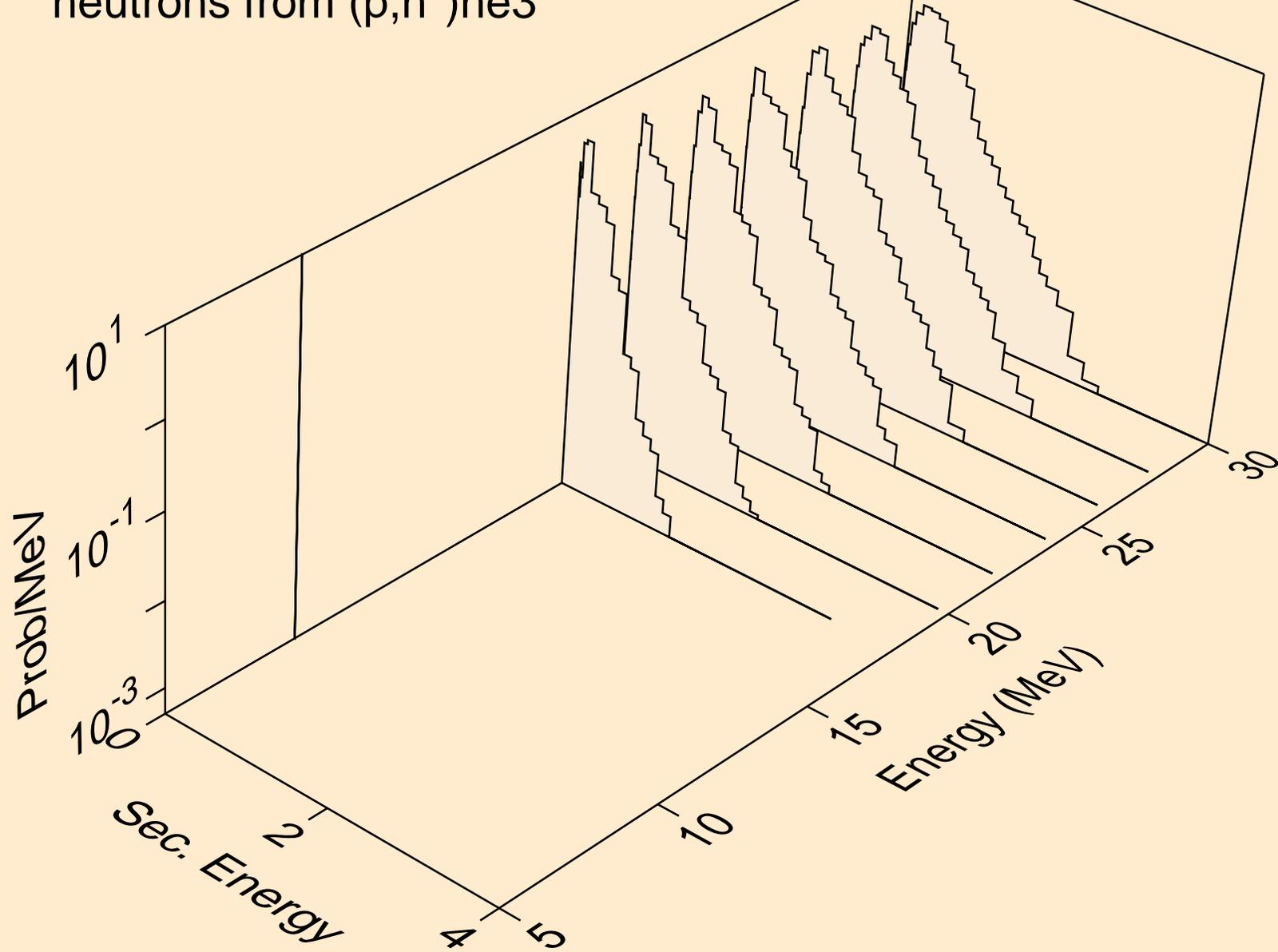neutrons from (p,n*)p

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
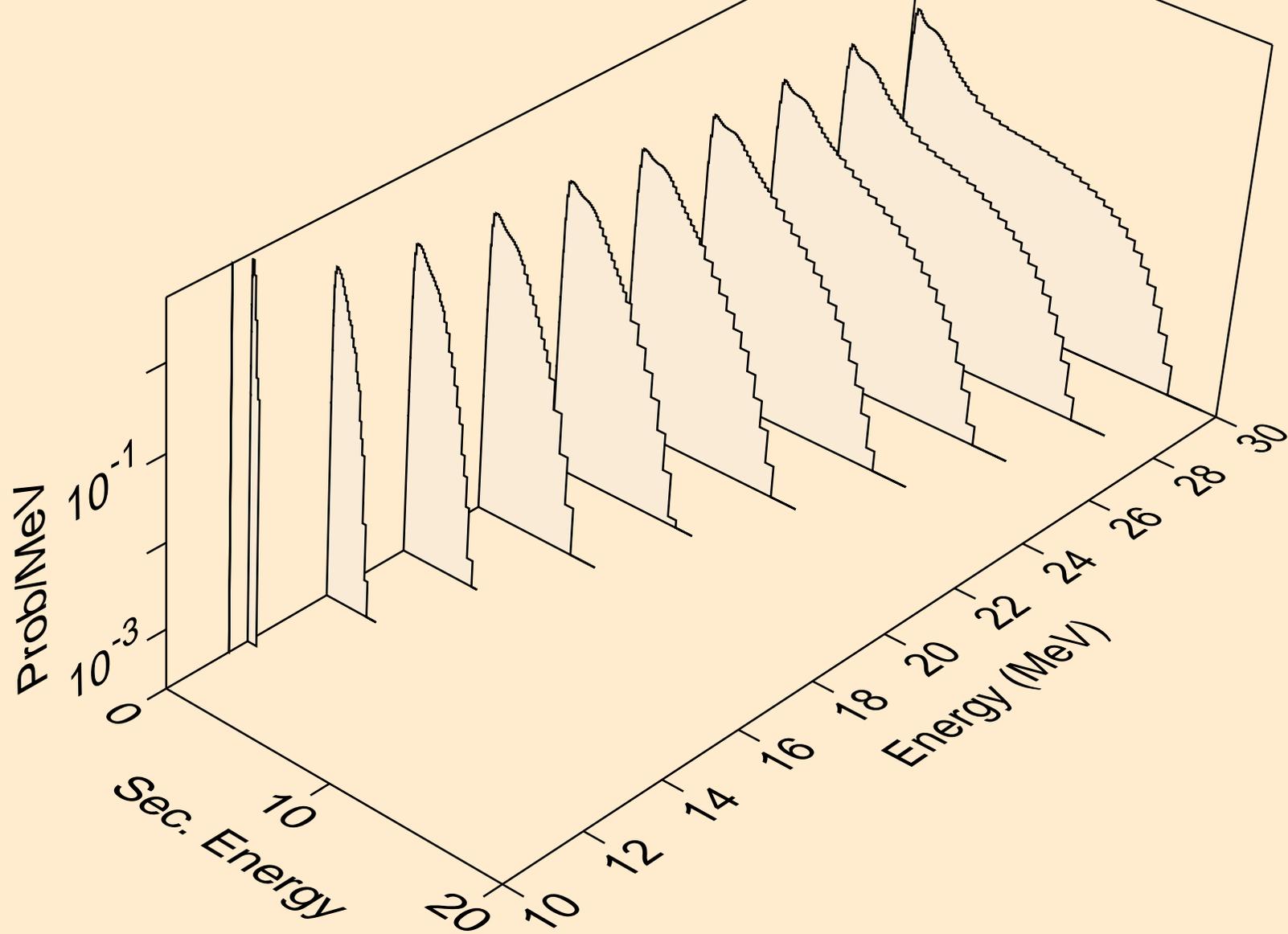neutrons from (p,n*)d

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
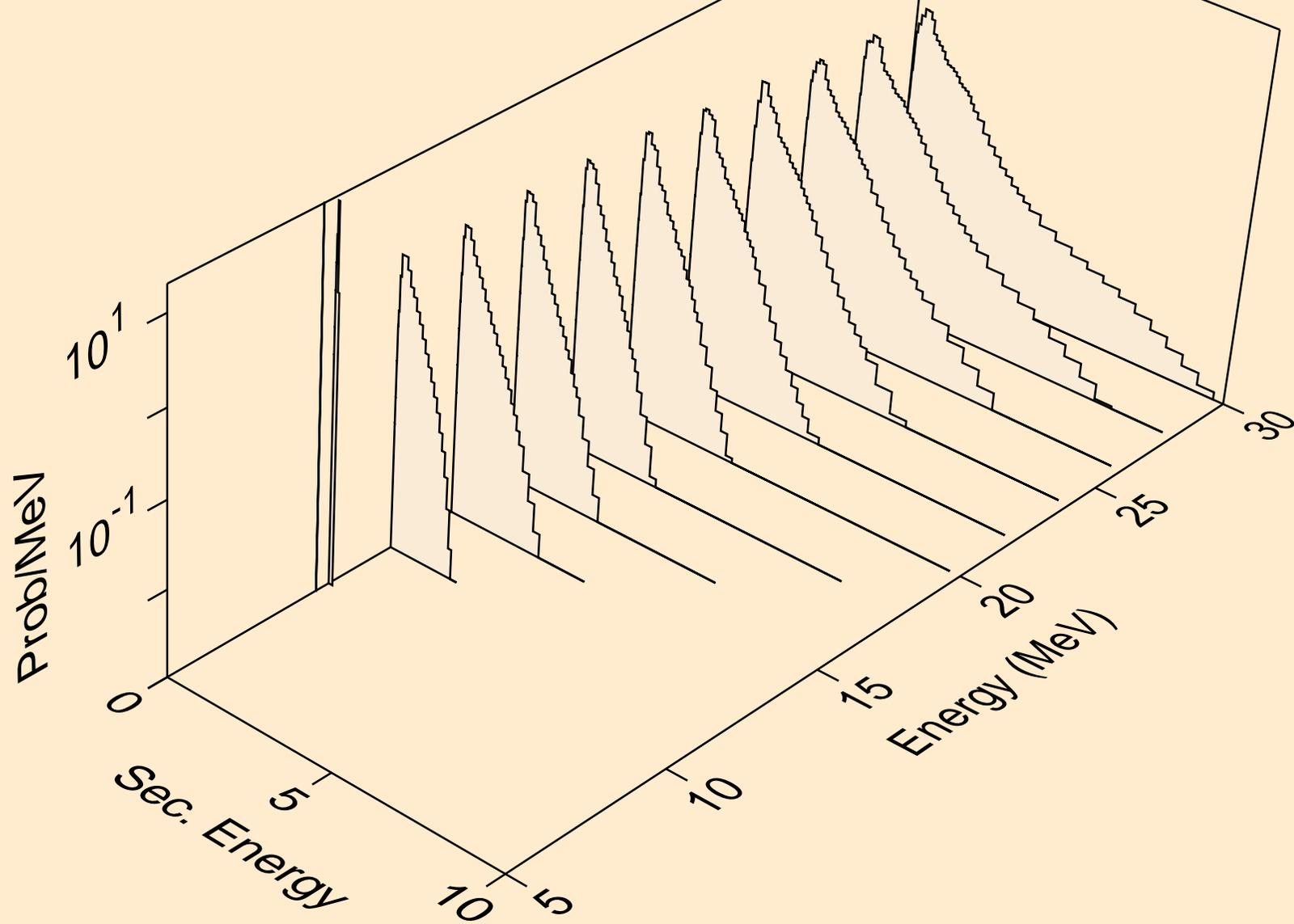neutrons from (p,n*)t

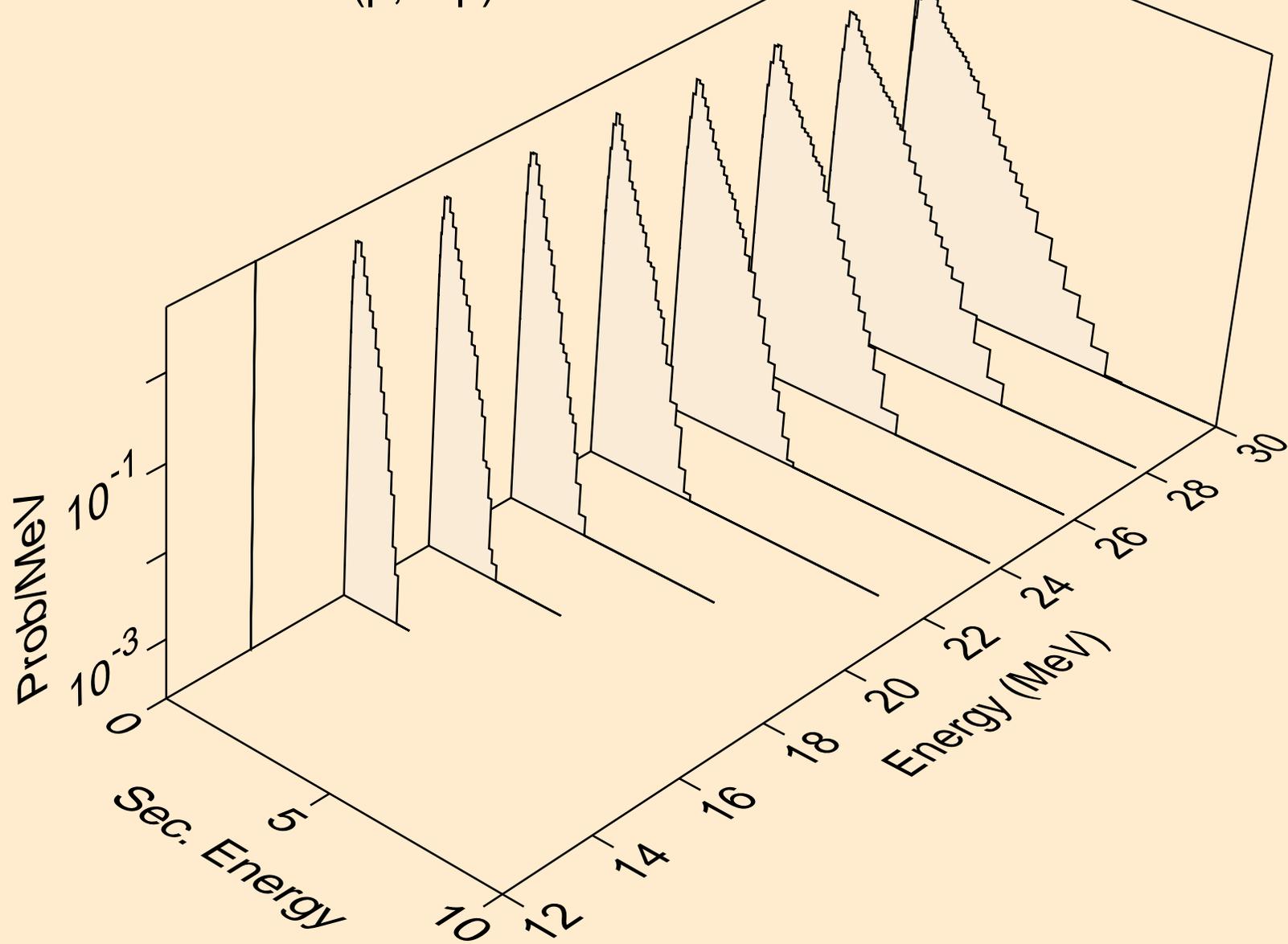FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,n*)he3

Prob/MeV

10^1

10^{-1}

10^{-3}

10^0

Sec. Energy

2

4

5

10

15

20

25

30

Energy (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,4n)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,2np)

Prob/MeV

10^1

10^{-1}

0

Sec. Energy
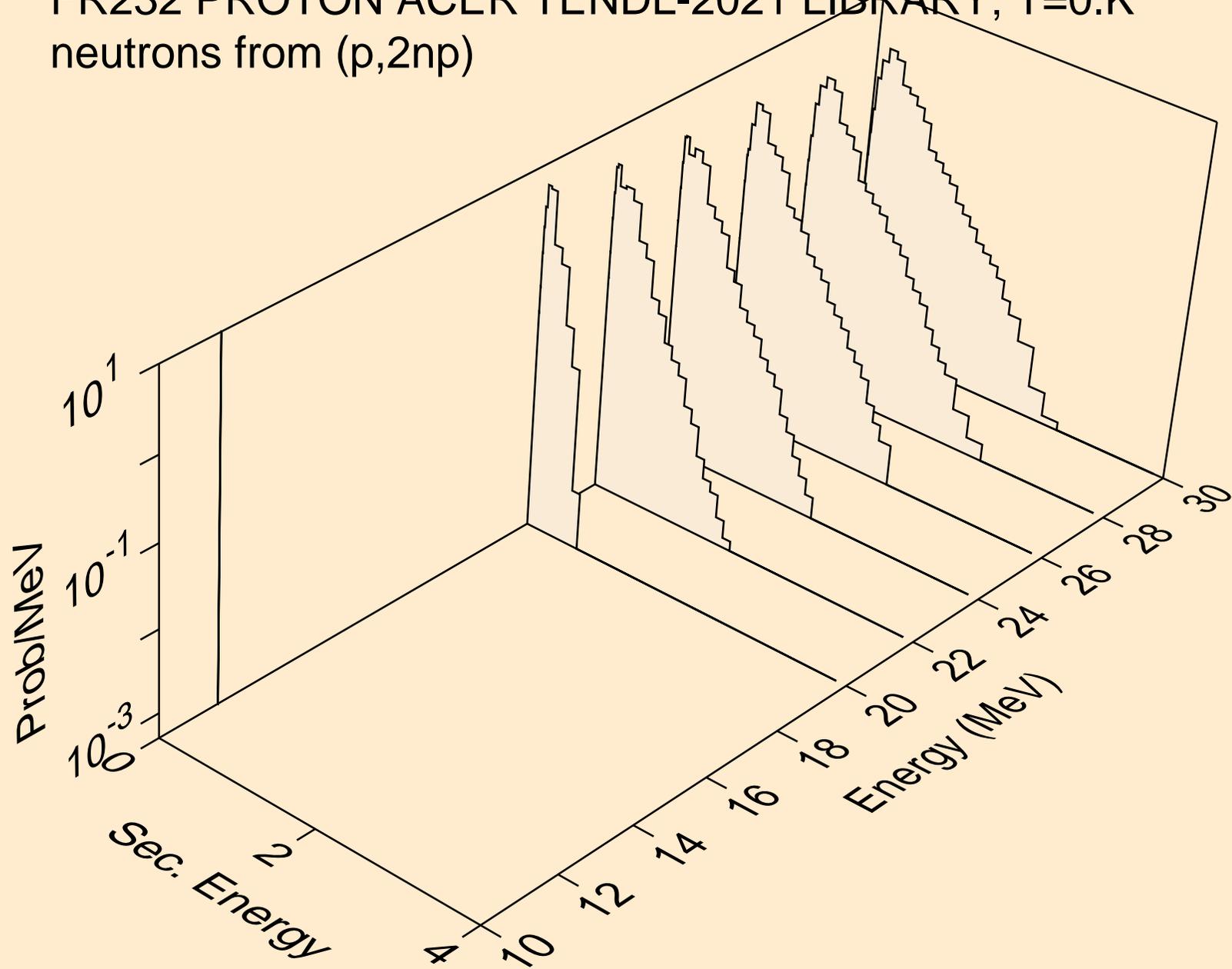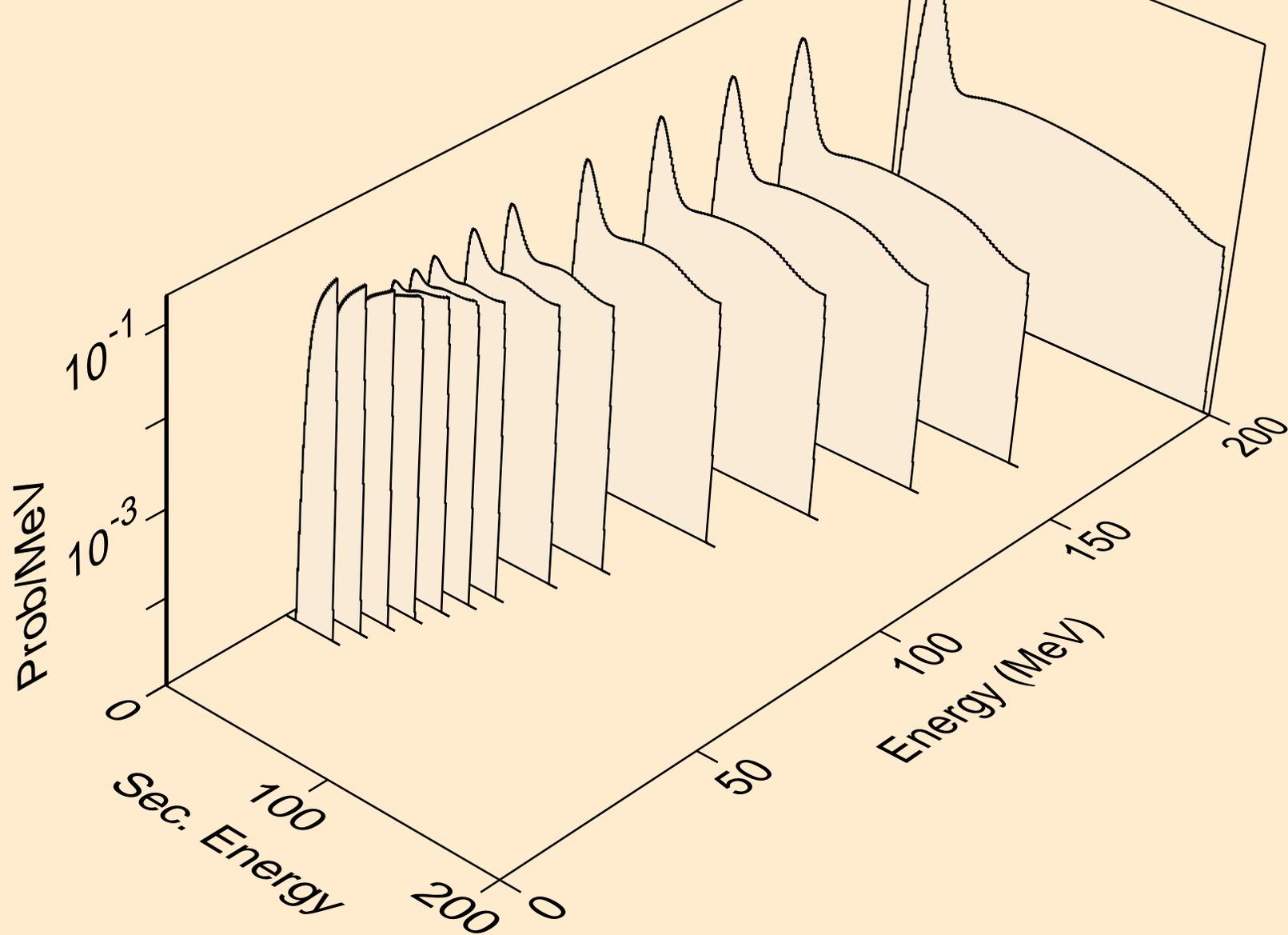
5

10

5

10

15

20

25

30

Energy (MeV)

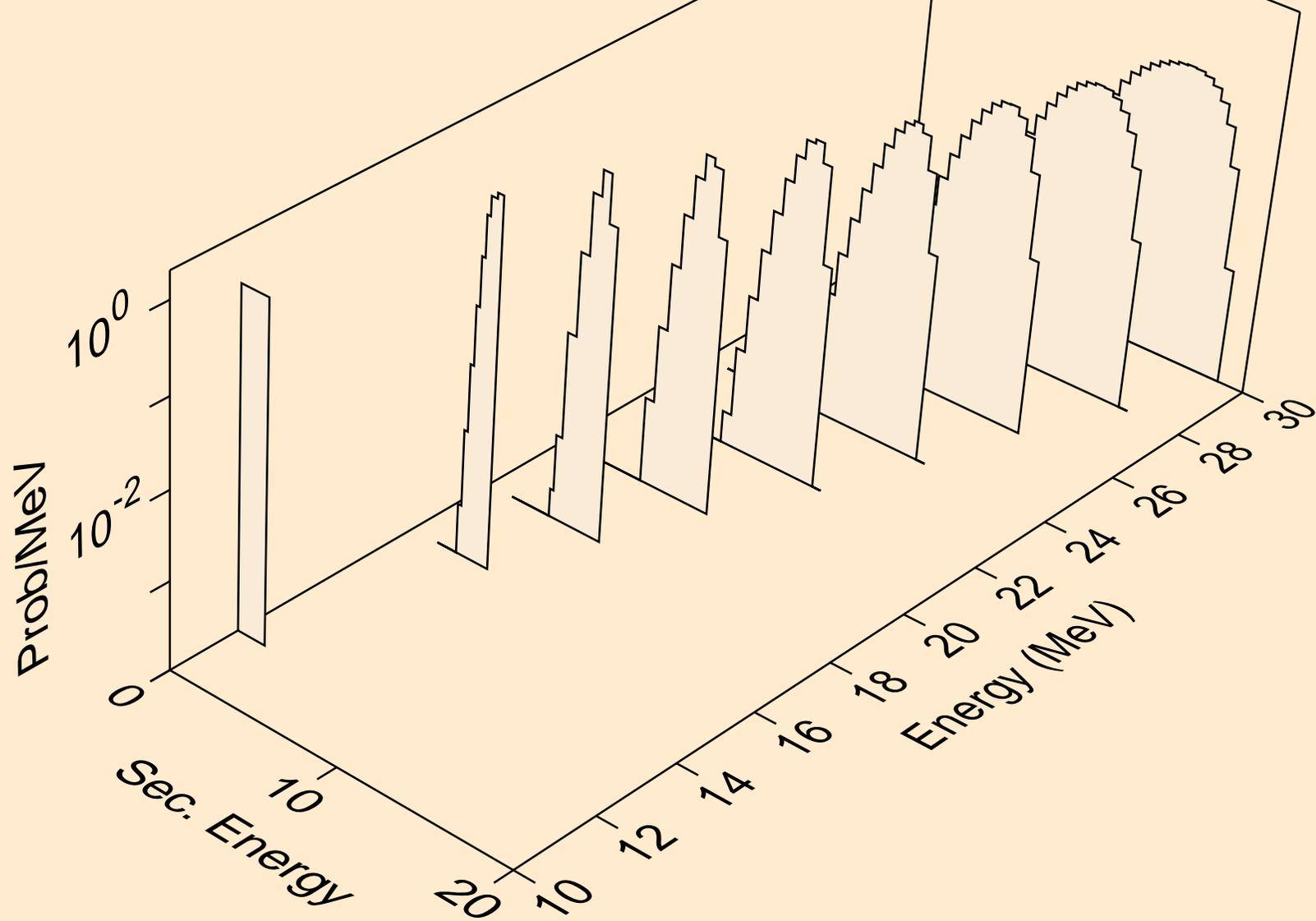FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,3np)

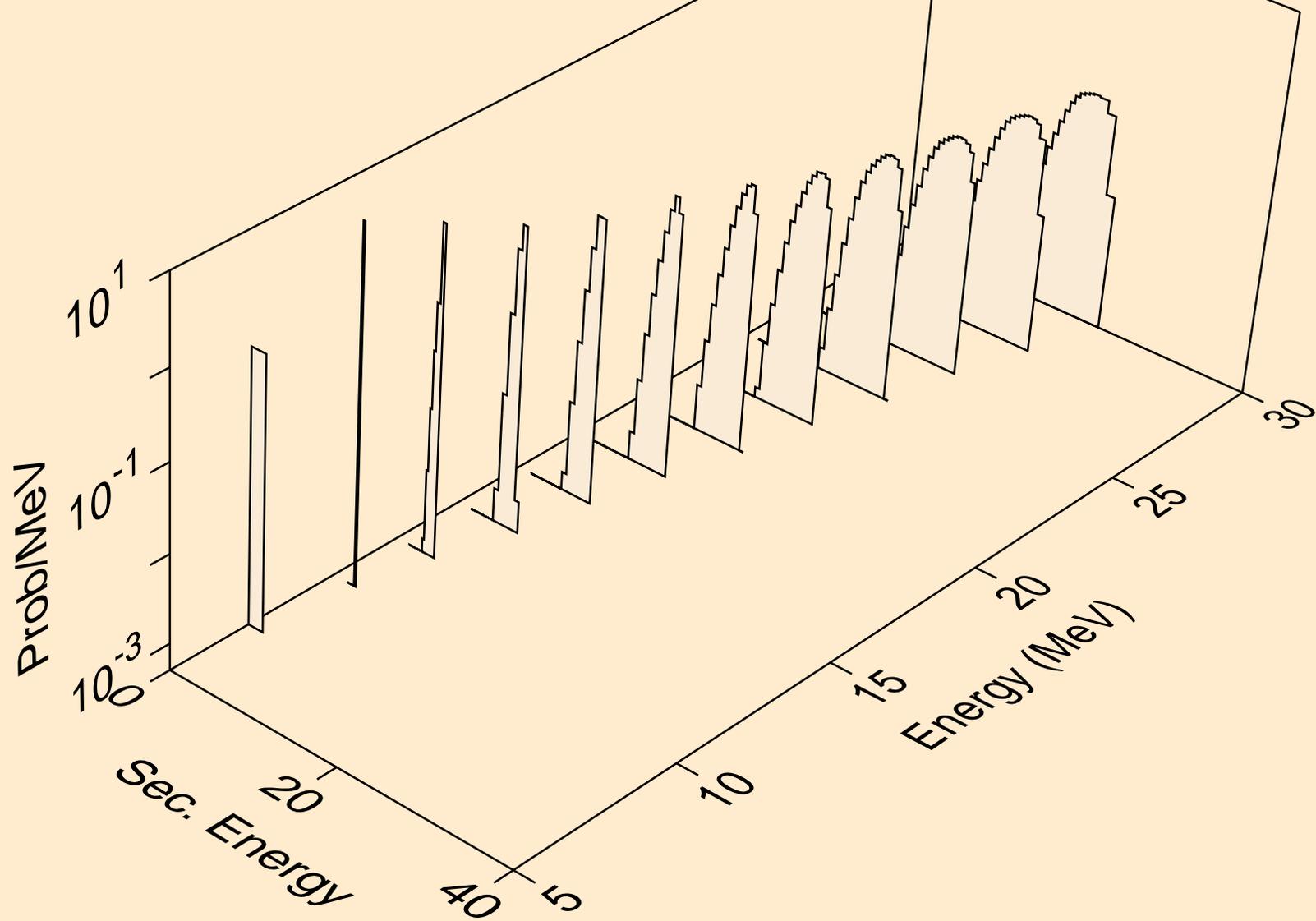FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
neutrons from (p,2np)

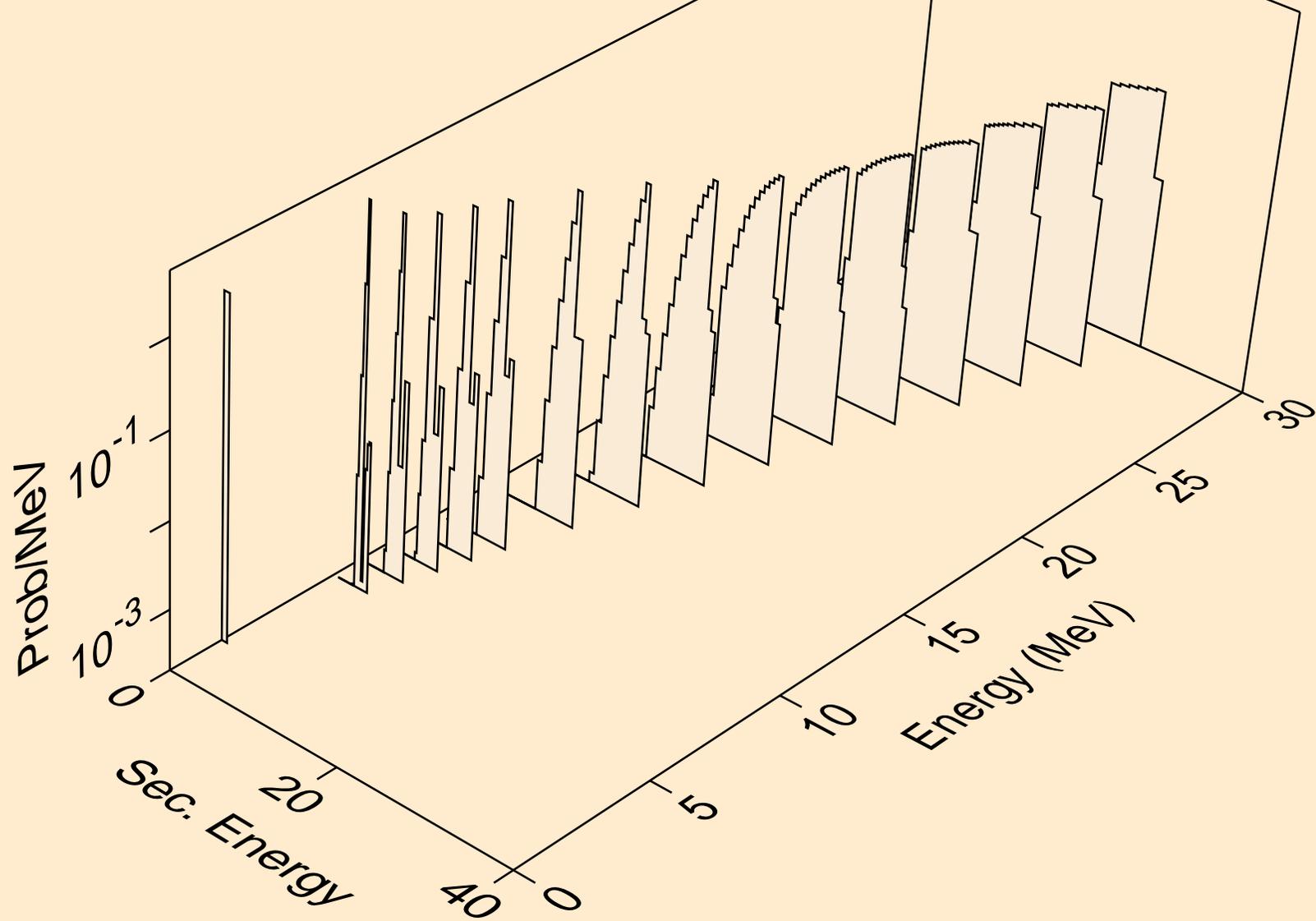FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
deuterons from (p,x)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
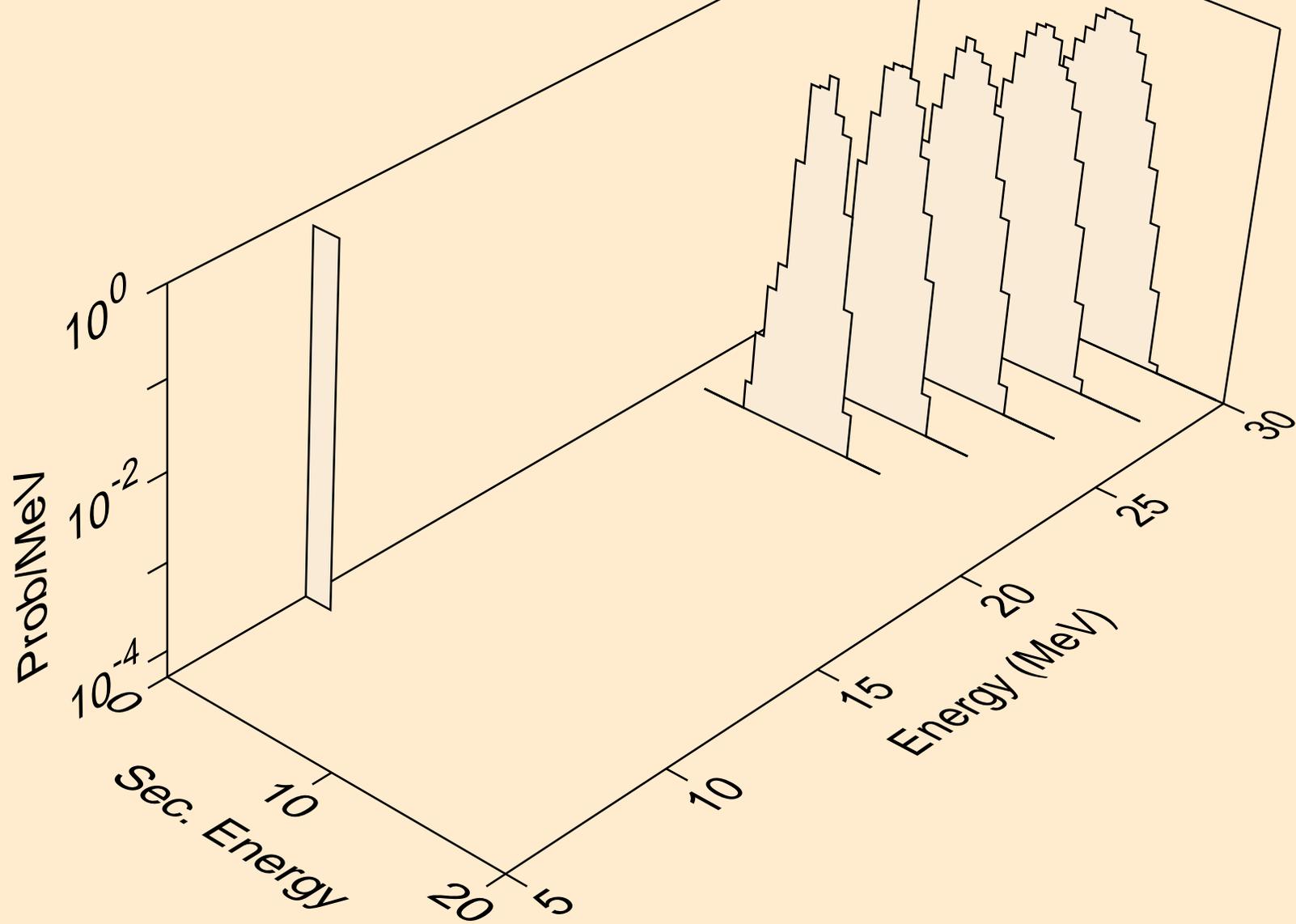deuterons from (p,2nd)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
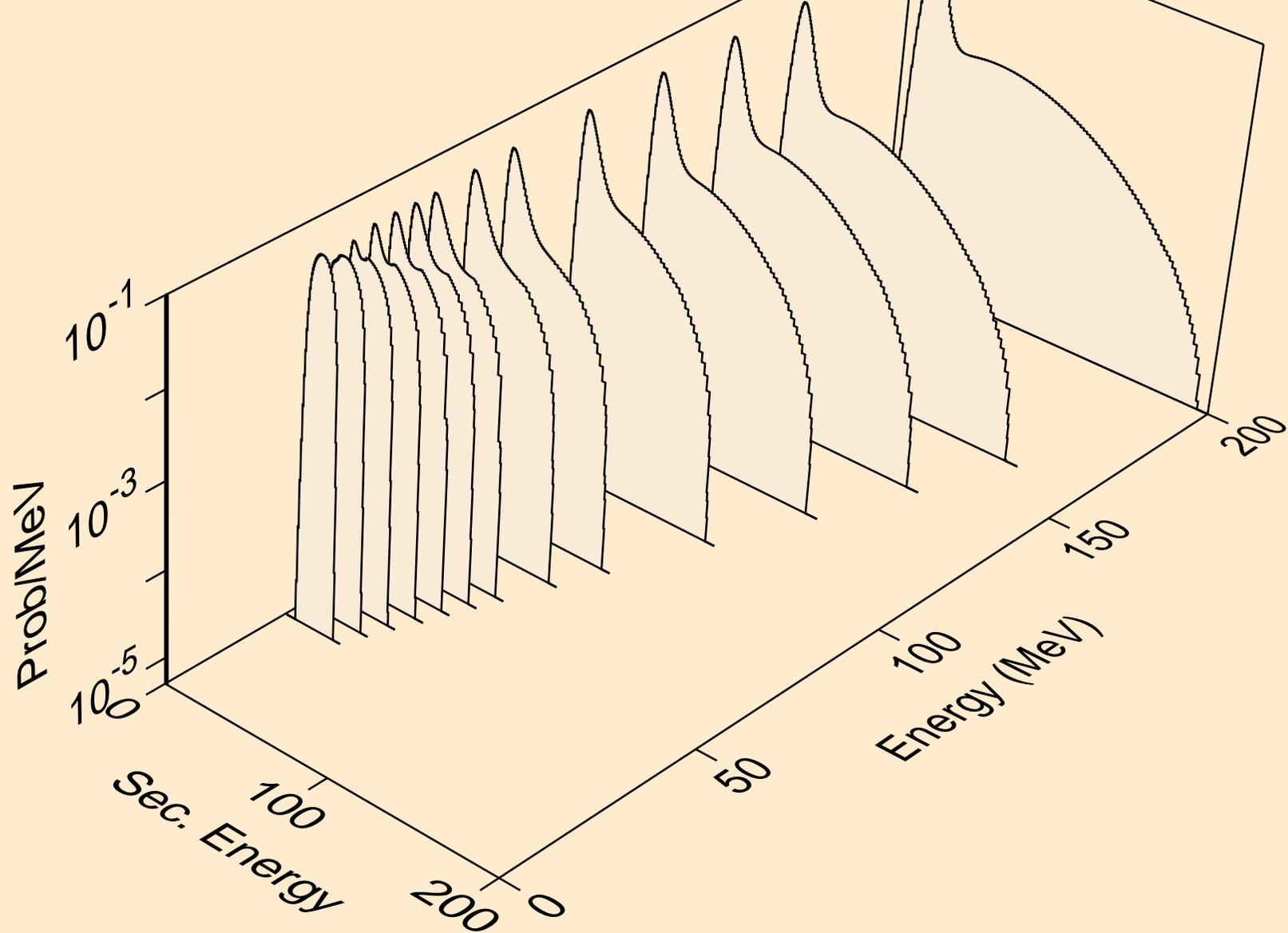deuterons from (p,n*)d

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
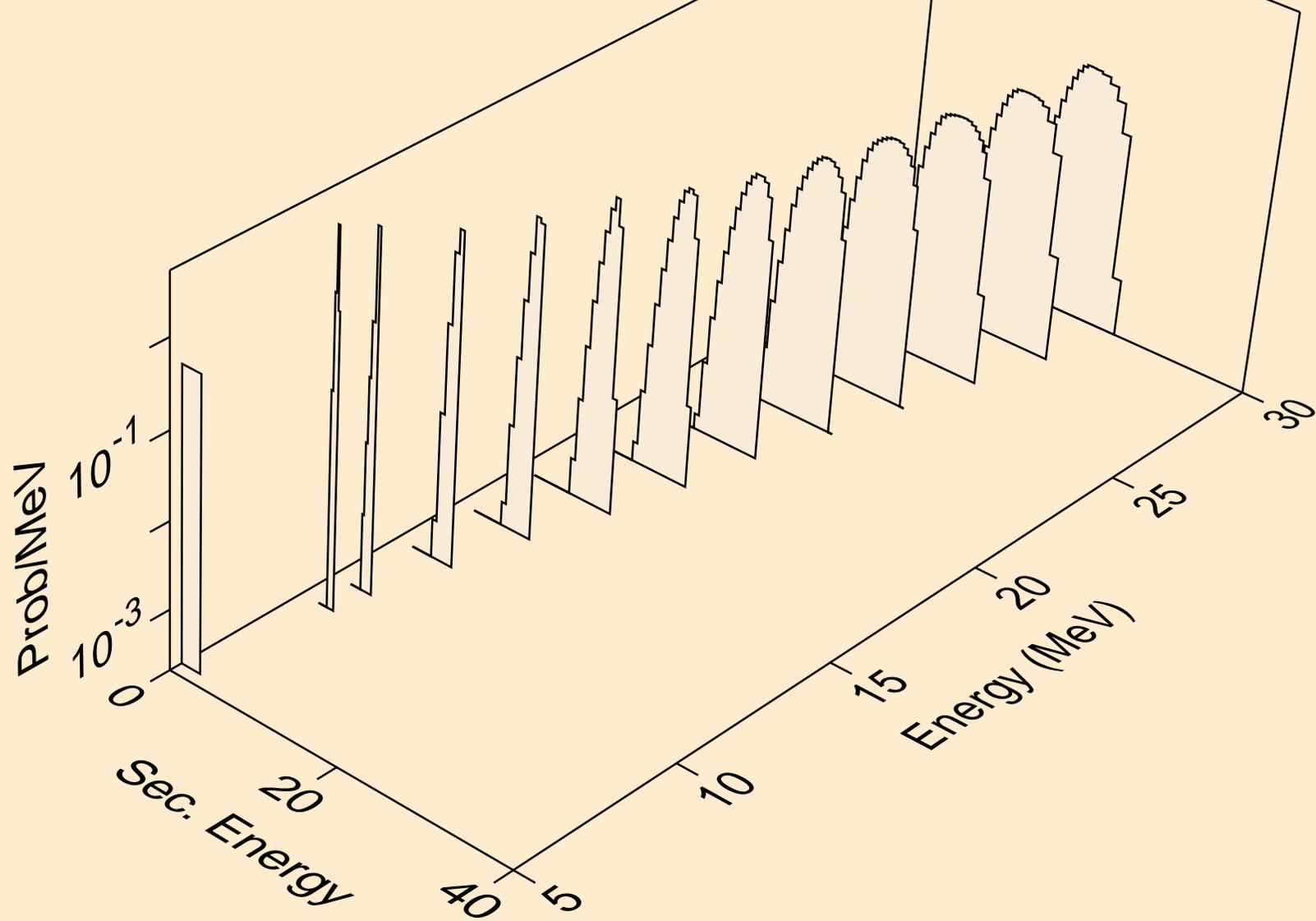deuterons from (p,d)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
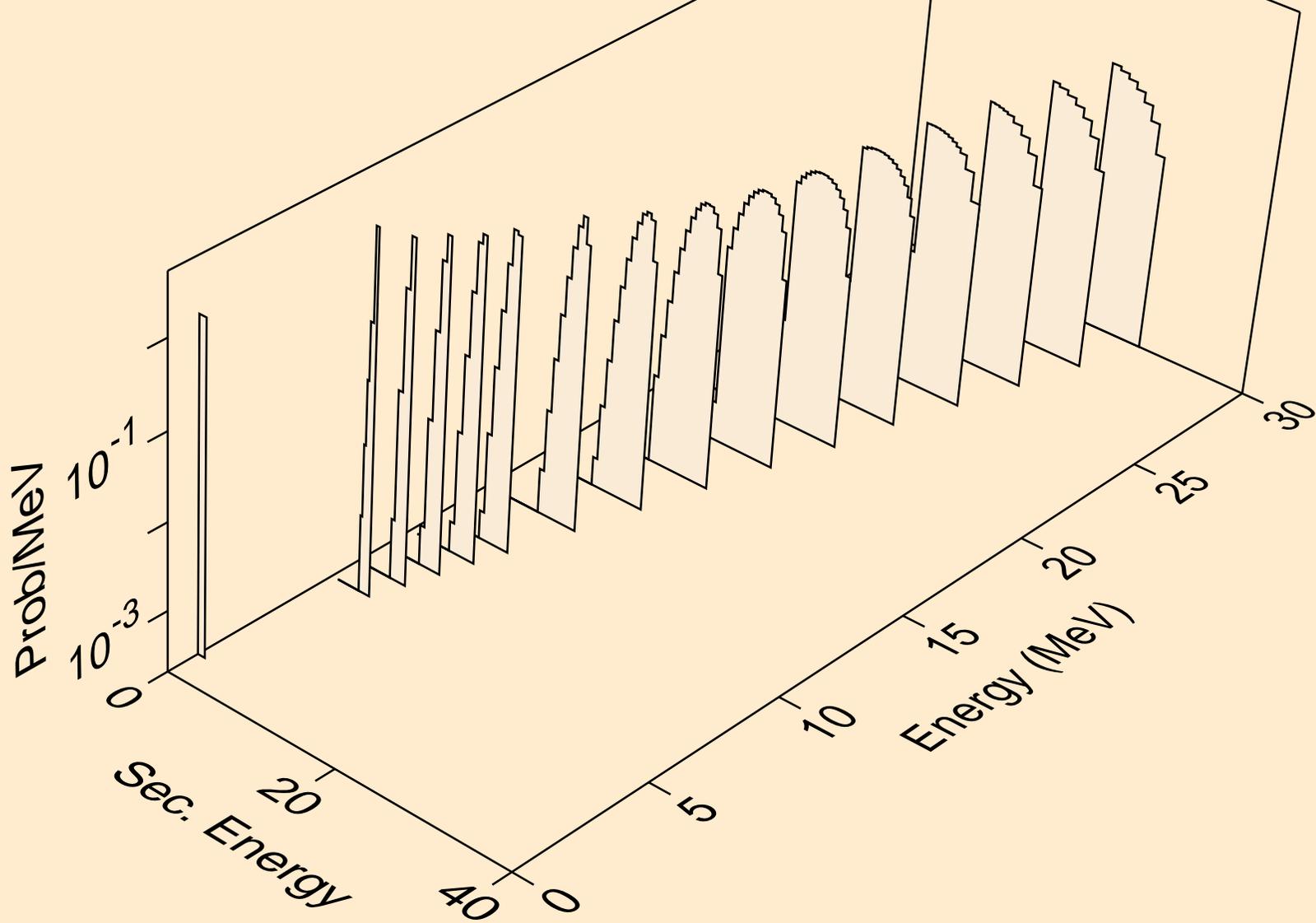deuterons from (p,pd)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
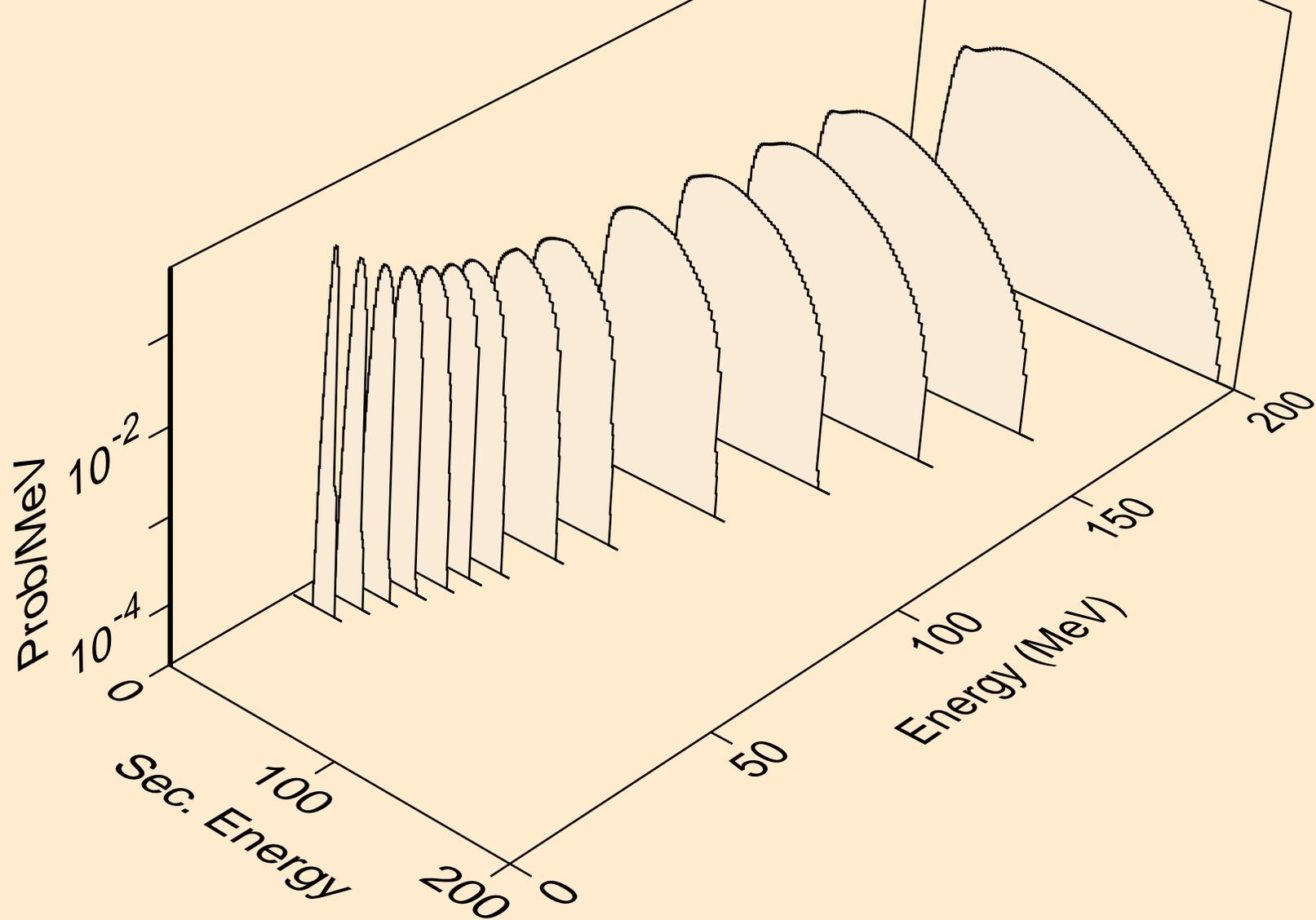tritons from (p,x)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
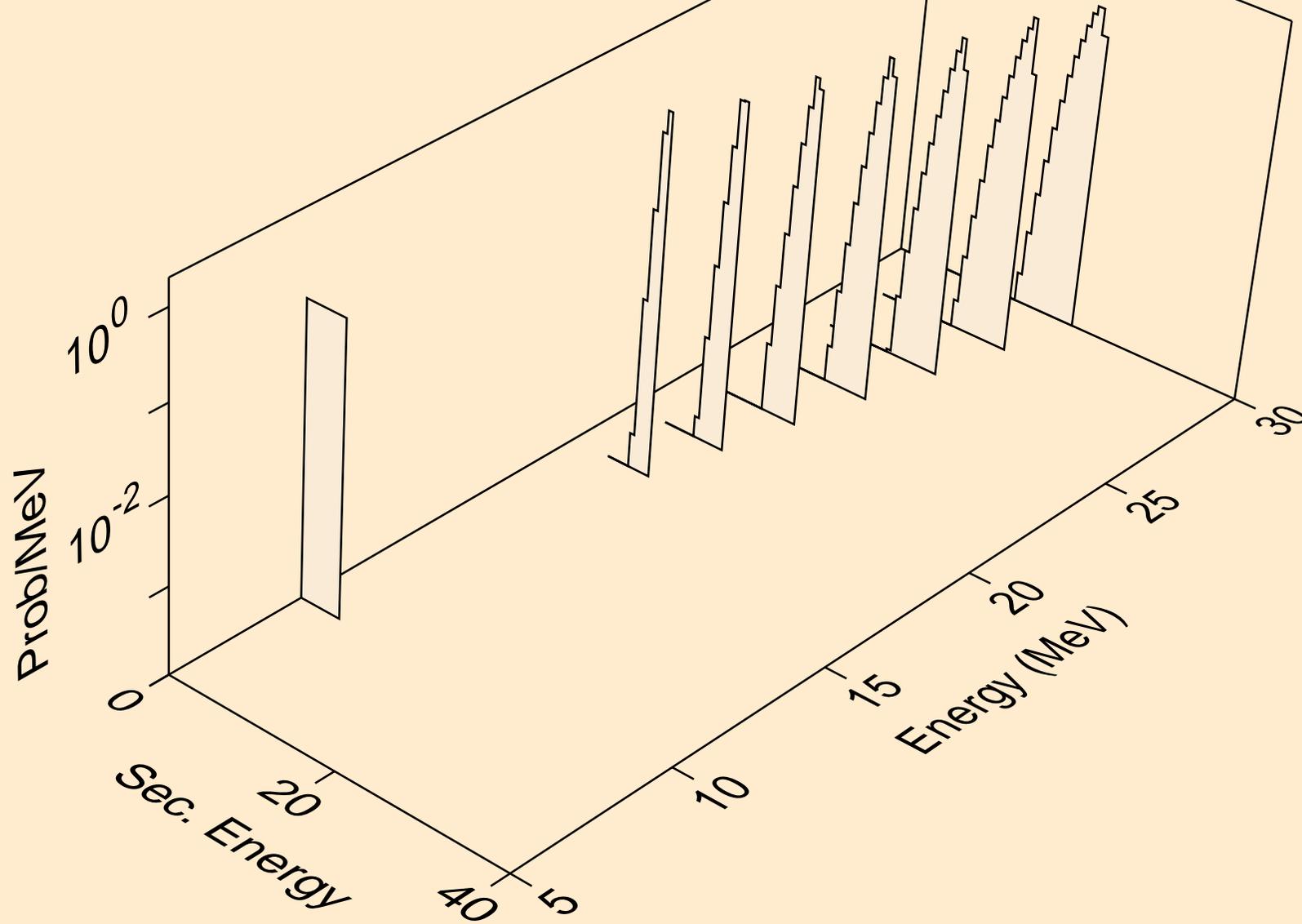tritons from (p,n*)t

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
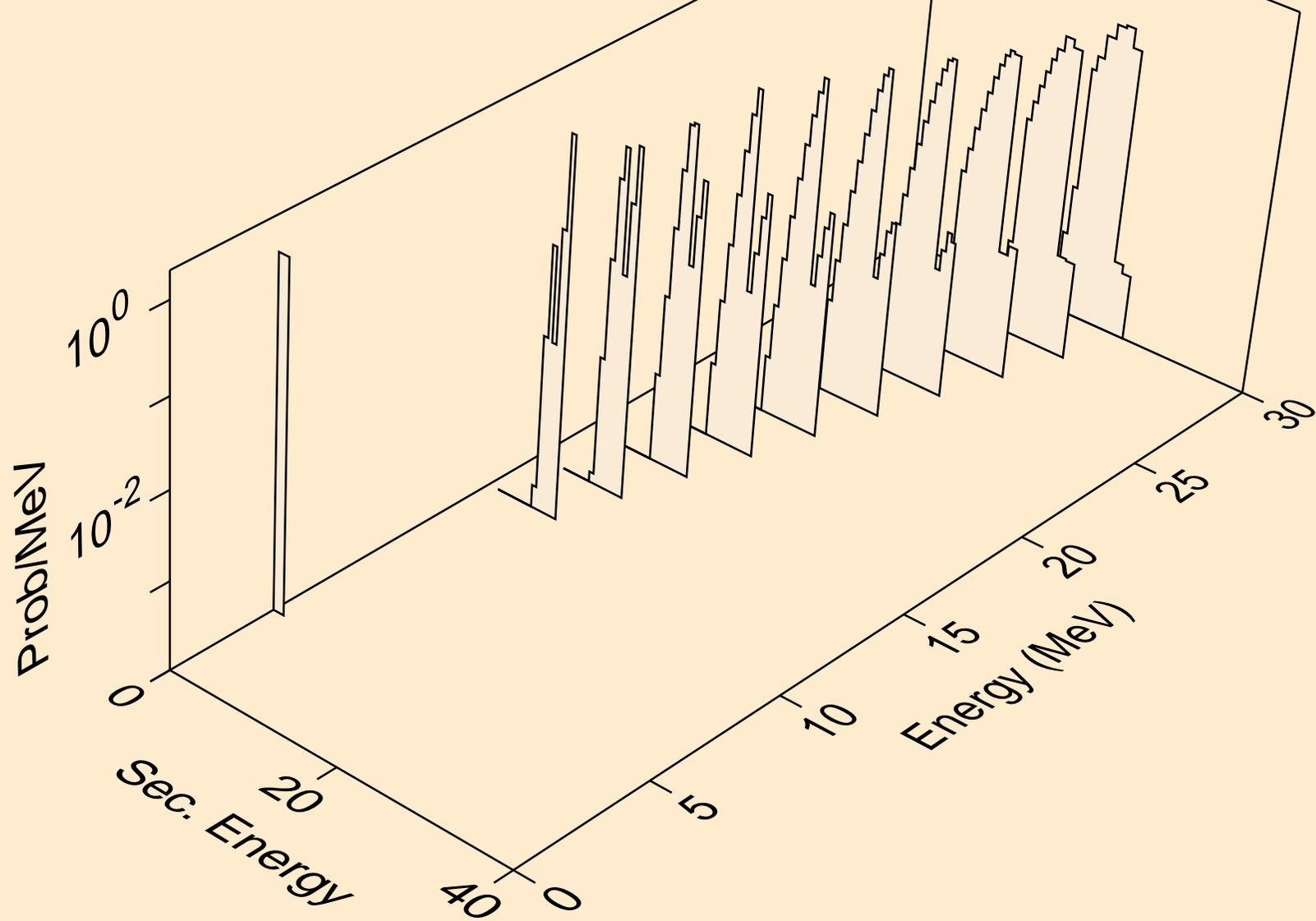tritons from (p,t)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
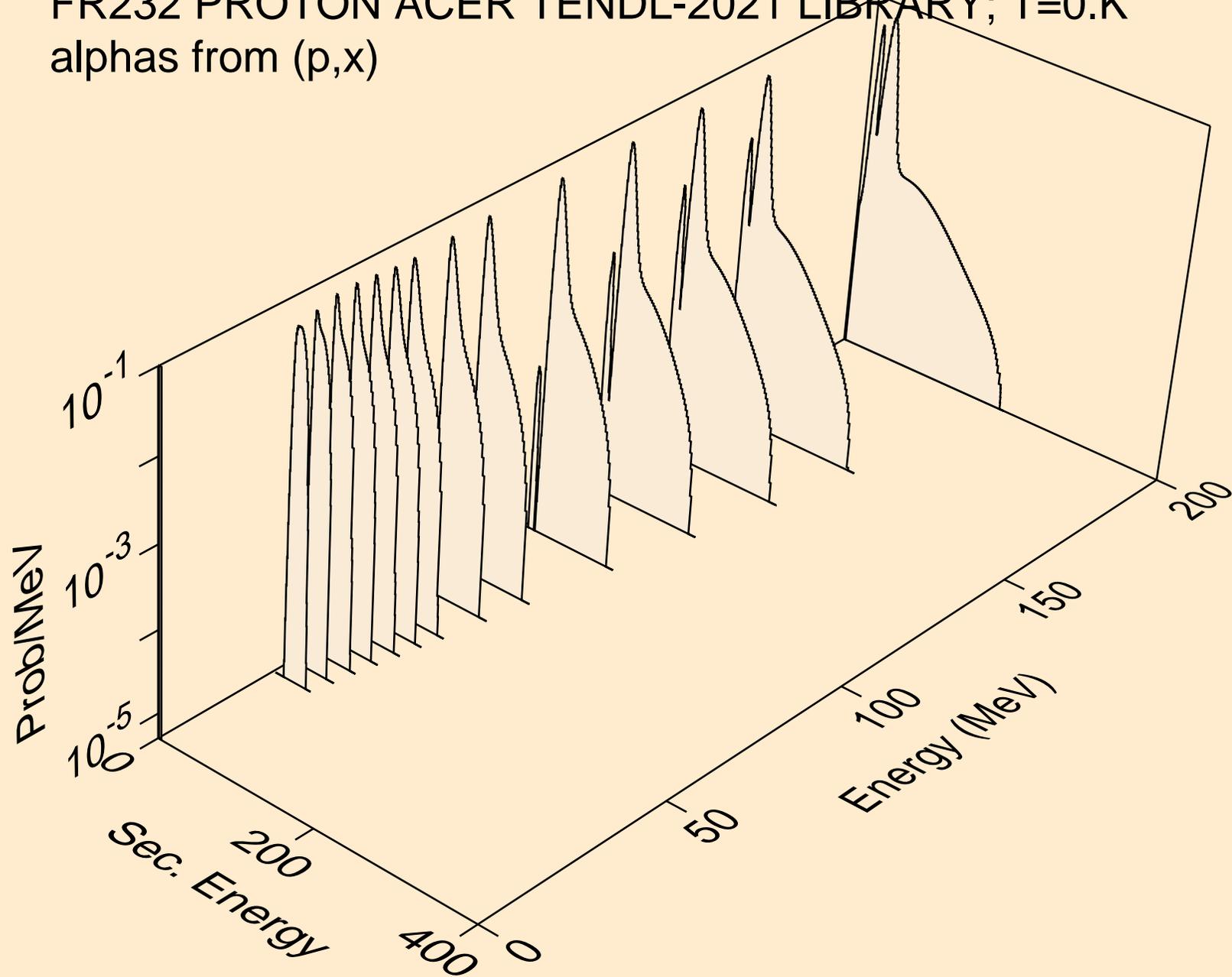he3s from (p,x)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
he3s from (p,n*)he3

Prob/MeV

10^0

10^{-2}

0

Sec. Energy

20

40

5
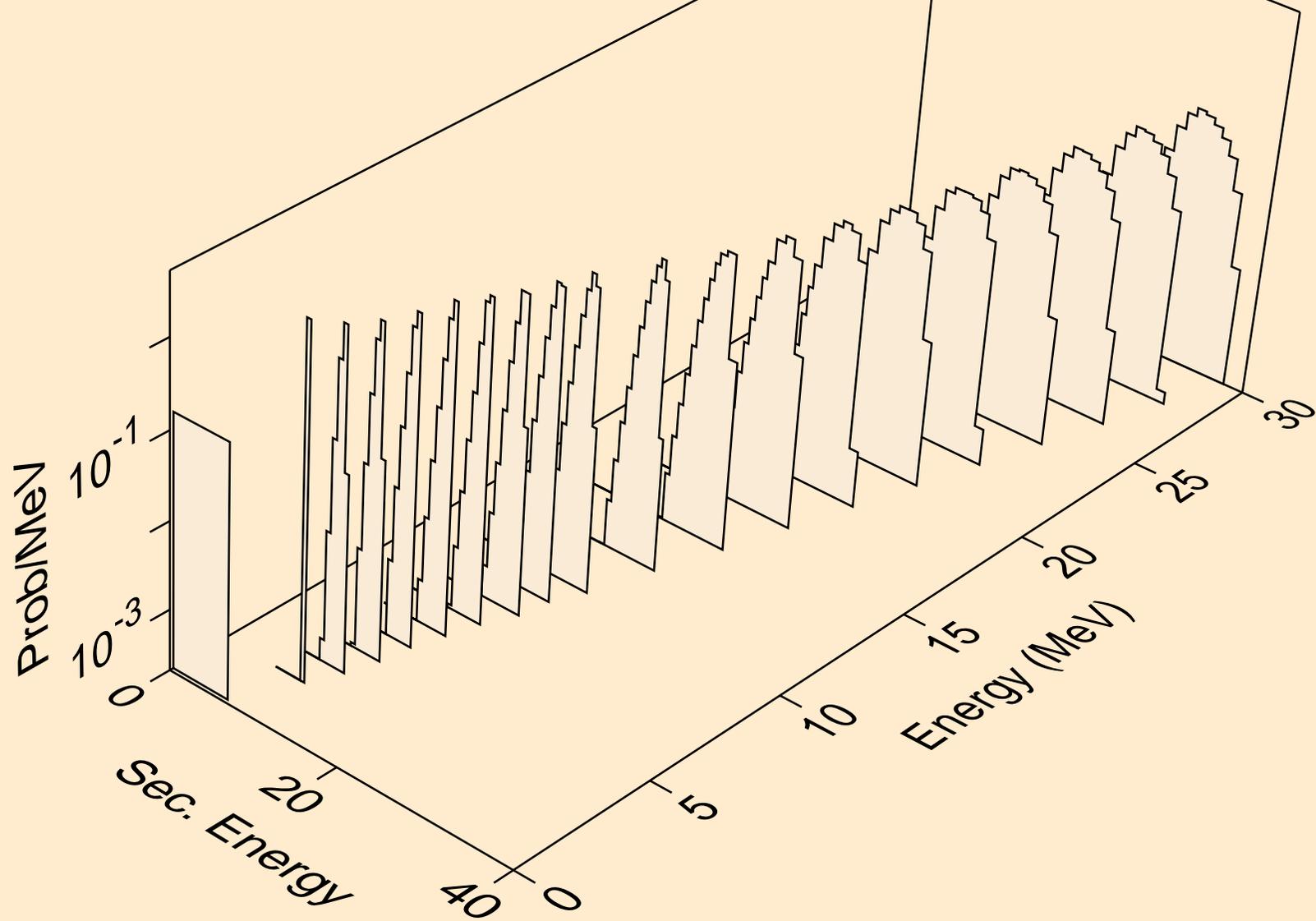
10

15

20

25

30

Energy (MeV)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
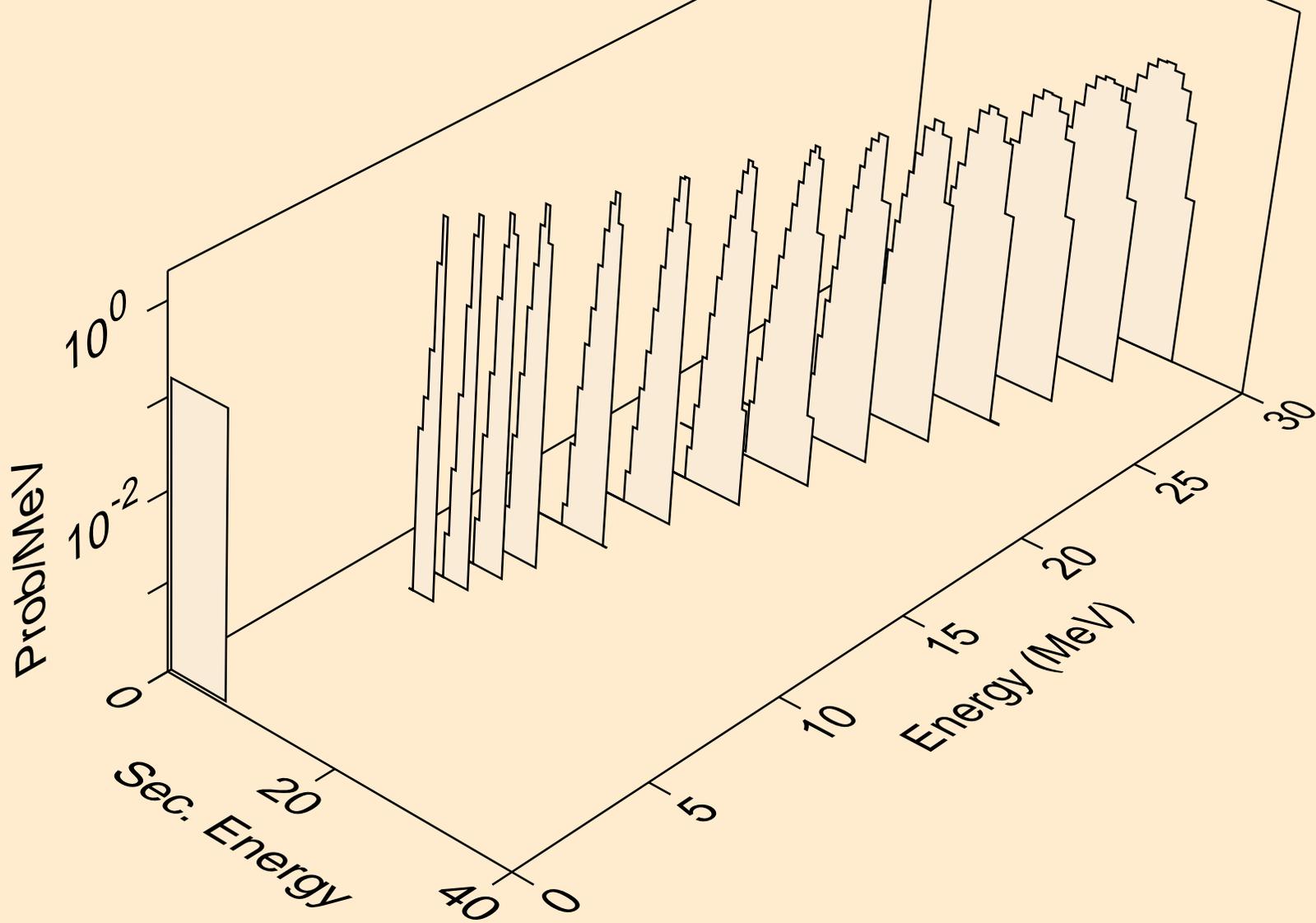he3s from (p,he3)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
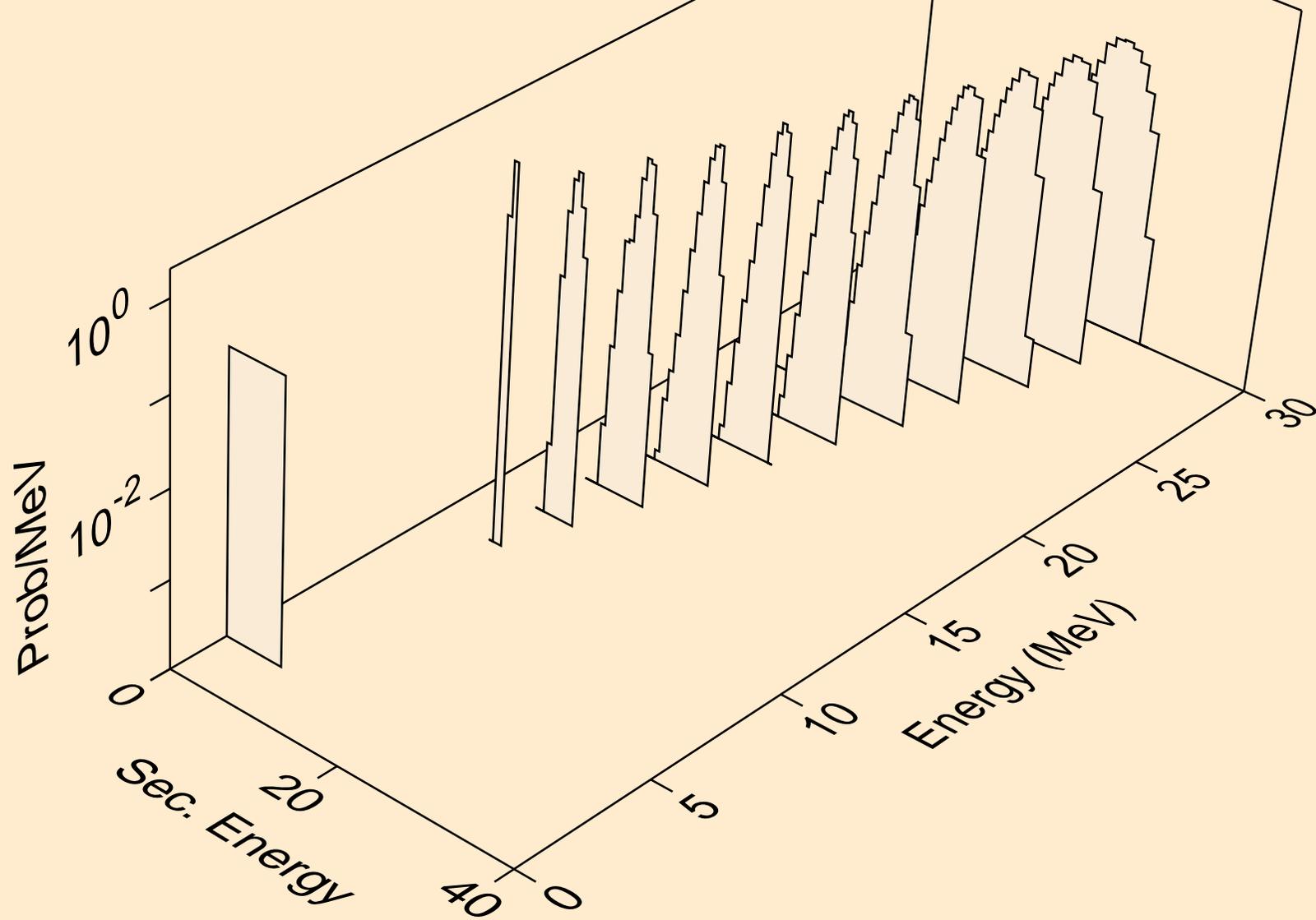alphas from (p,x)

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
alphas from (p,n*)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
alphas from (p,2n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
alphas from (p,3n)a

FR232 PROTON ACER TENDL-2021 LIBRARY; T=0.K
alphas from (p,a)