

« »

(*KJ* *KV*)

() insert anode

insert anode D_2+1Kr

D_2 α D_2 $Y_n \propto I_p^a \propto E^{\frac{a}{2}}$ D_2+1Kr / D_2+1Kr

D_2+1Kr *kv* / *torr*
(< / *torr*)

GPM (/ *torr*)

[]
(cm^{-3}) (keV)
(ns)
[]
[] S
[]
ns μs
m=0
(ns)
[]
Z
() CANDU
/ [] Hz Mw / ×

Z

[]



) insert anode

(

D-D

[]

] (GPM)

[

[]

D-D

[]

m=0

[]

(MeV)

$$Y_n \propto I_p^a \propto E^{\frac{a}{2}}$$

(I_p) (Y_n)

3 ≤ α ≤ 5

α=4

(E)

[]

α=2

[]

1- anomalous

[]

A []

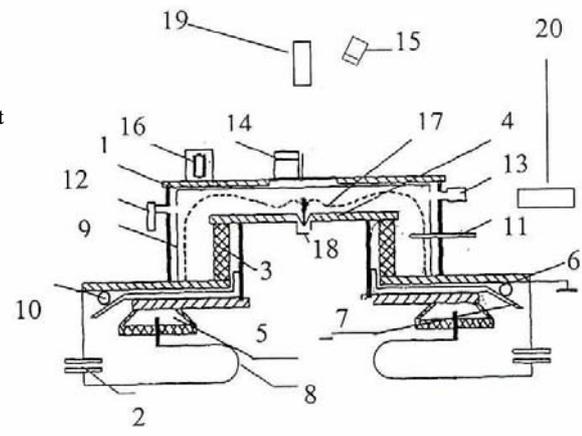
$$\varphi_n(0)$$

$$A = \frac{\varphi_n(0)}{\varphi_n(90)}$$

D₂ () « » (kJ kV)

D₂+%1Kr

- 1. end-on GM counter
- 2. side-on GM counter
- 3. GM counter for total neutron yield measurement
- 4. Cathode
- 5. Anode
- 6. Capacitor bank
- 7. Insulator



« » (kJ kV μF)

μs (rise-time) / MA μF

nH / cm cm Spark Gap
 (insert anode)
 insert anode
 / cm cm
 cm
 ns GPIB ()
 TDS3054 () TDS3052 (MHz)
 / cm²
 / mm
 / mm
 (cm)
 / ²⁵²Cf dc
) PIN
 μm
 NaI
 (PM-53) nS NE-102 (× mm²)
 cm

-
- 1- Data acquisition
 - 2- Pin-hole camera

$$\left(\frac{dI}{dt} \right)_{t=0}$$

ns

$D_2 + \%1Kr$ D_2

()

kV

kV

« »

/ torr

insert anode

insert anode

/ torr

insert anode « » kV $D_2 + \%1Kr$ ×

insert anode

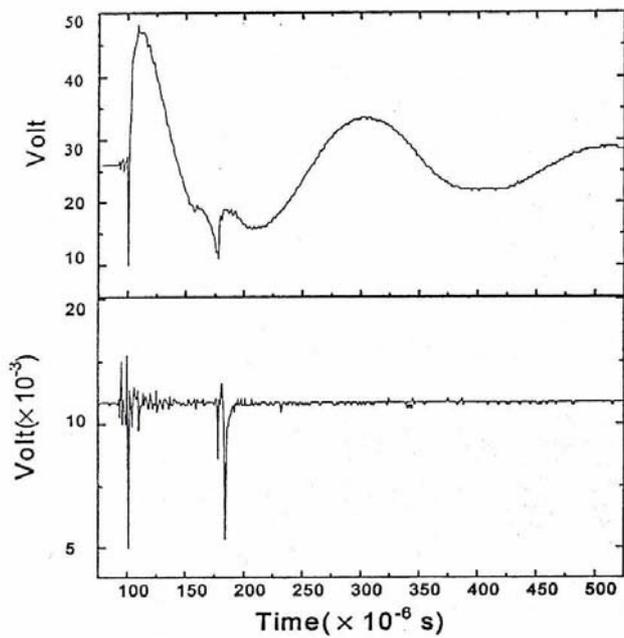
insert anode

/

insert anode

/

insert anode



()

()

+

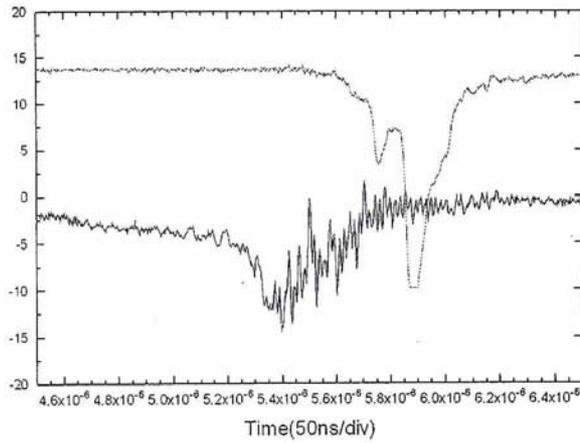
(MHz)

()

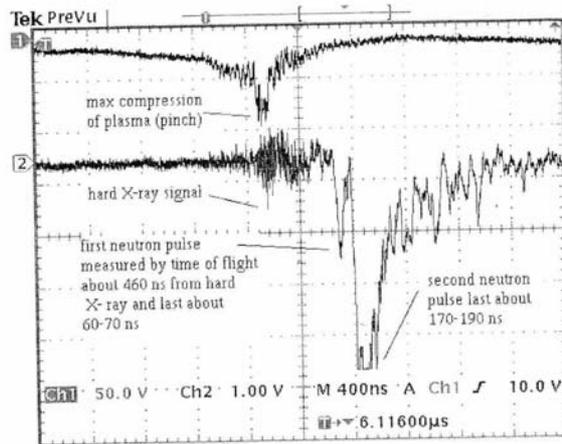
[] m=0

μ s

()



()



()

()

$D_2 + 1\%Kr$

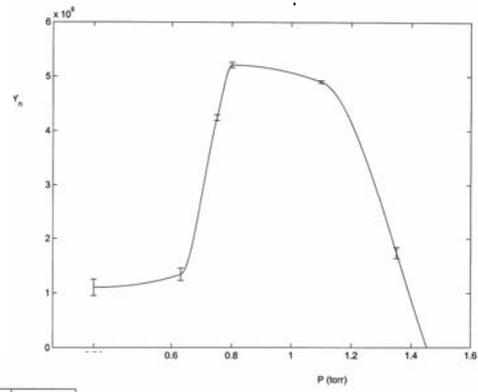
$() D_2$

(Bremsstrahlung)

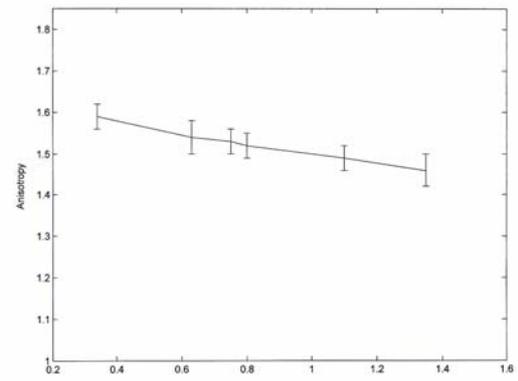
[]

(hot spots)

$D_2 + \%1Kr$ D_2 kV
 / torr D_2 / torr $D_2 + \%1Kr$
 D_2 / / $D_2 + \%1Kr$
 Kr



(kV : D_2 :)



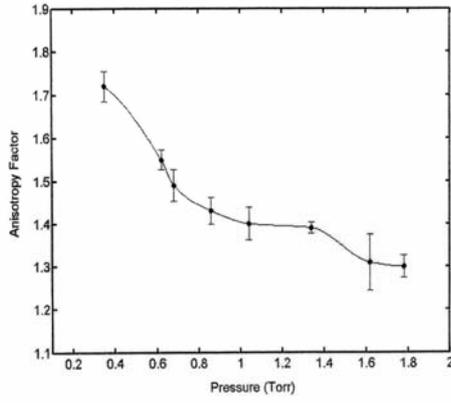
(kV : D_2 :)

insert anode

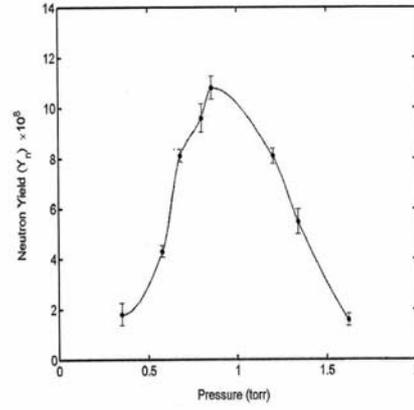
D₂+%1Kr

kV / torr D₂ / torr
 / × / torr
 « »
 (/ /) (/ / torr)
 (/ V / V)
 (V / V)
 (/ torr) (/)
 (/ torr) .[]
 (/ torr)
 (/ /)
 (V / V)
 GPM
 (> torr)
 (/ /)

(kV : D₂+%1Kr :)



kV)



(kV : D₂+%1Kr :)

(/ torr

()

/ torr

α

/ D₂+%1Kr

$$Y_n \propto I_p^\alpha \propto E^{\frac{\alpha}{2}}$$

D₂
[]

(< kJ)

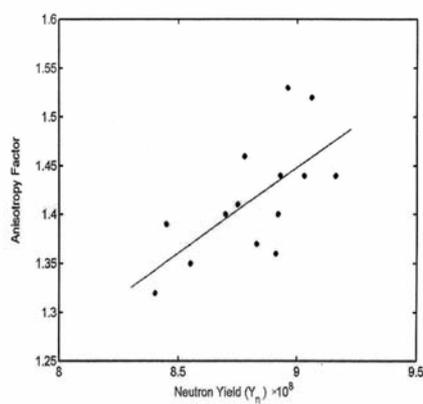
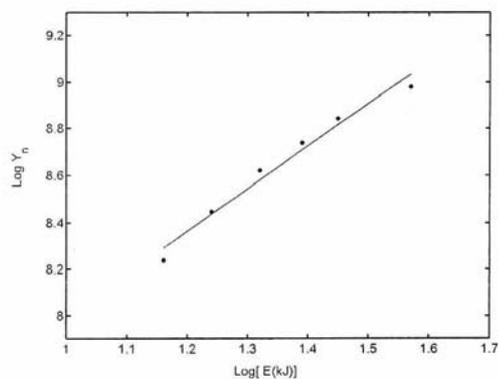
(kJ)

)

(

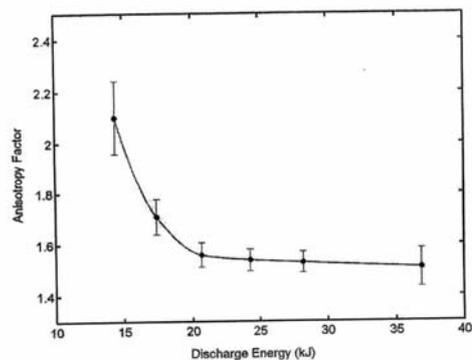
D_2+1Kr :)

(/ torr : kV :



(/ torr : D_2+1Kr :)

(/ torr : D_2+1Kr :)



...
 insert anode
 « » (kJ kV)
 insert anode
 insert anode
 α
 $D_2 + \%1Kr$
 $Y_n \propto I_p^\alpha \propto E^{\frac{\alpha}{2}}$
 $D_2 + \%1Kr$
 insert anode
 (< / torr)
 (kV)
 GPM (/ torr)

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