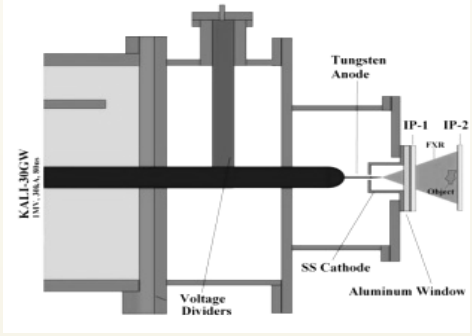
1 MV Flash X Ray (FXR) System

KALI-30GW System (1 MV, 33 kA, 80 ns)

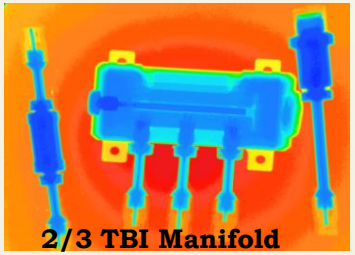
About the System

- Marx + Blumlein PFL based System
- 1MV max Operating Voltage
- Industrial X-Ray Diode
- 80 ns pulse width
- 1.2 R dose at1m distance

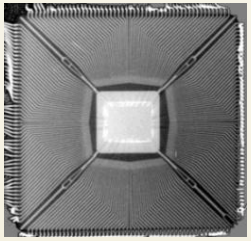


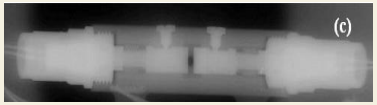
Diode Schematic

Radiographs



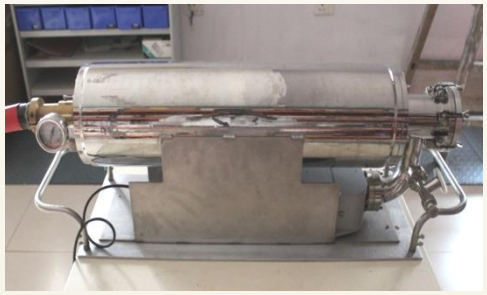
2/3 TBI Manifold





500 kV Cable Fed FXR System

Compact Marx (500 kV, 10 kA, 80 ns)

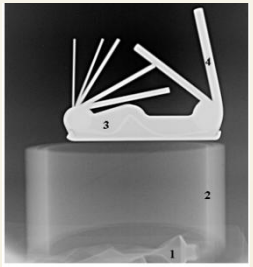


FXR Diode with SIP

About the System

- Marx based cable fed FXR System
- Compact, portable FXR tube
- 500 kV max Operating Voltage
- 50 ns pulse width
- 25 mR dose at1m distance

Radiograph



1- Aluminium tube, 2- plastic tape
3- plastic material, 4- SS plate

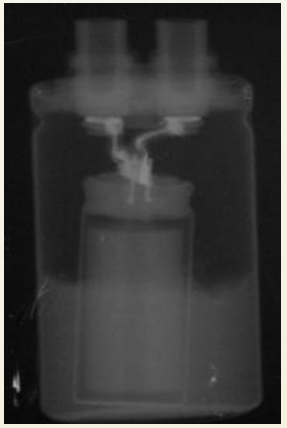
225 kV FPFL Marx FXR System

PFN Marx (225 kV, 5 kA, 200 ns)

About the System

- PFN based Marx System
- Compact, Industrial FXR tube
- 225 kV max Operating Voltage
- 150 ns pulse width
- 5 mR dose at1m distance

Radiograph



Flash X-ray systems provide a unique method of imaging very fast events which cannot be captured using normal photographic techniques. X-ray images can be obtained in few tens of nanoseconds even through smoke, fire and metal.Harder than those produced for Medical purposes and suitable for dynamic radiography. Have higher penetration power and can penetrate thick steel containers.

Sub-microsecond Radiography

- ❑ Material Deformation
- ❑ Flying Speed (~km/s)
- ❑ High Speed Interaction
- ❑ Through Opaque Medium
- ❑ Transient chemical reactions of various materials.
- ❑ Sub-microseconds photo chemistry
- ❑ Transient radiation effects on electronics and biological systems.
- ❑ Dosimeter material development, evaluating the response time and saturation level.

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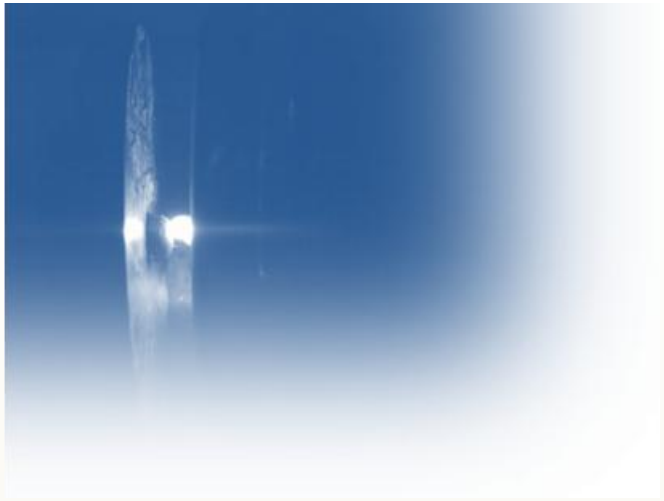
BARC
आभा परमाणु अनुसंधान केंद्र
BHABHA ATOMIC RESEARCH CENTRE



Indigenously Developed FXR Systems for Radiography

Flash X-Ray (FXR) Systems

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