



**G. Fanourakis**

# **NCSR “Demokritos”**

## **Demokritos group**

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# TN11 5.5 MV Tandem accelerator (protons, ions)

Up to 9 MeV protons

Up to 50  $\mu\text{A}$  protons, deuterons

Target locating system:

RBS-400 Charles Evans Goniometer

## **Irradiations performed so far:**

STI diodes

Tin doped diodes

IC 's

Silicon with protons at 77° K.

## **Techniques:**

RBS/Channeling/NRA

## **Other Instruments/techniques:**

- **Pulsed EPR (Electron Paramagnetic Resonance) Instrument**
- **ENDOR (Electron Nuclear Double Resonance) technique**
- **Quantum Mechanics analysis techniques (Hartree-Fock approx., DFT methodology).**
- **CO<sup>60</sup> Gamma source (120 krad/hr) for irradiations.**

## **Activities so far:**

Measurements of Tin and Boron doped samples

Measurements of n and p irradiated samples

gamma irradiations of silicon diodes

# Pool type Nuclear Reactor

## **Irradiations with fast neutrons in the reactor's Rabbit system**

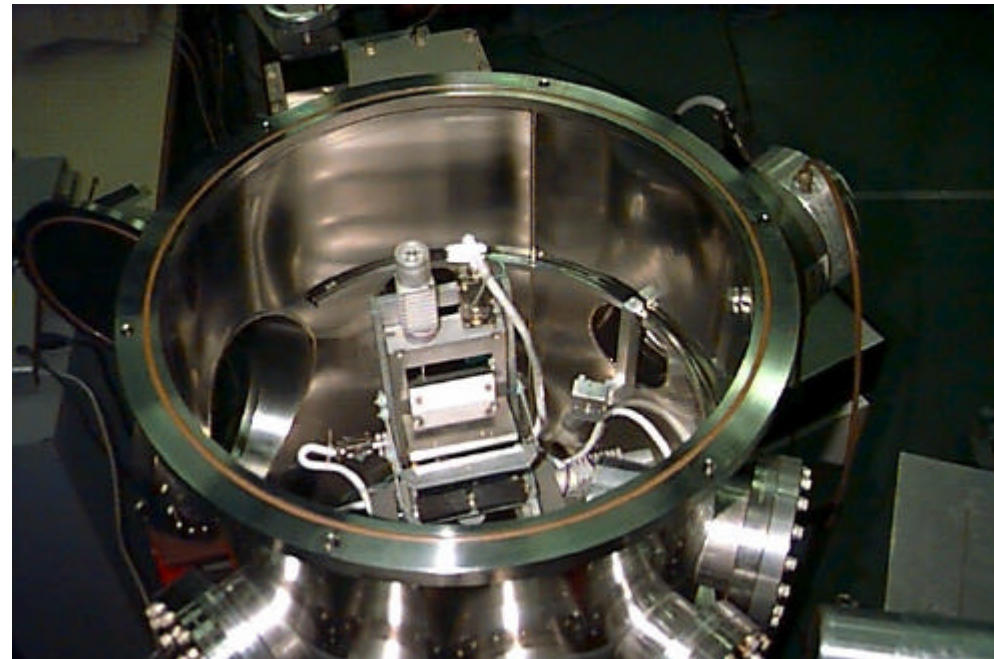
Availability of all the flux range needed to study the irradiation damage of any (small sized) silicon device

## **Irradiations with thermal neutrons in the reactor's Thermal Column.**



**Demokritos TANDEM  
accelerator**

**Irradiations/ Scattering  
Chamber - Goniometer**





**The Rabbit**

**The Nuclear Reactor**



## The EPR system in use

