Dear Cinzia:

-- some private communication cut out , Michael ---

I wish to continue the collaboration with you, Steve and the new team. I am working on SiC at present and submitted a paper for publication. It is very interesting material for EPR. There is very little done and an EPR contribution will add to the proposal. I also send you attached a paper that has been accepted for publication. My answers to your questions are as follows:

-Name of the institution and contact person

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George Kordas (gkordas@ims.demokritos.gr)

-Names of group members and fraction of their time devoted to this activity

1. George Mitrikas, 70%
2. Apostolos Kontogeorgakos, 40%
3. Christos Trapalis, 20%

-Current activities

The group is currently employing FT-EPR techniques for the characterization of Si and SiC materials.

N-type FZ silicon doped with tin ($2\text{-}10\times10^{18}cm^{-3}$) was irradiated by neutrons in nuclear reactor (fluence of $1\times10^{17}cm^{-2}$ for 2h). The irradiation induced paramagnetic defects were studied by continuous wave (cw) and pulsed Electron Paramagnetic Resonance (EPR) spectroscopy. The EPR measurements were carried out between liquid helium and room temperatures. The two and three pulse Electron Spin Echo Envelope Modulation (ESEEM) experiments were performed in order to inspect the hyperfine couplings between the electron spin and its surrounding nuclei. This study also revealed the existence of a weak coupling between the paramagnetic centre and nearby protons.

The impact of light and medium mass ions in crystals in the MeV range is of particular interest in high energy implantations. In the present work, extensive continuous wave (cw) and pulsed electron paramagnetic resonance (EPR) studies of a 21*R* SiC Lely platelet, after irradiation with 8 MeV $^{7}Li^{2+}$ ions in the random direction, up to a maximum dose of approximately $1´10^{16}$ particles/cm^2 are presented. The existence of new types of defects induced in the end-of-range region of impinging ions is discussed and analyzed. Due to the complexity of the induced structure, the

technique of progressive annealing was utilized, revealing interesting features in the experimental spectra. The results are compared to known literature and an attempt is made to explain the occurring similarities. Furthermore, a new paramagnetic defect was isolated and analyzed, persisting up to 1100 ^{o}C during the annealing procedure.

-Field of interest within this collaboration

The interest of our group includes the characterization of the defects generated by irradiation in Si and SiC using the FT-EPR method. This method is sensitive to the environment of the defects in a distance up to 20 Angstrom.

-Available resources (Instrumentation, irradiation facilities etc.)

The group possesses a state of the art pulse EPR and pulse ENDOR facility operating at X-Band. The group has a cobalt gamma source as well as access to the reactor and tandem facility.