New materials

SiC – coordinator Ioana Pintilie:

Two IKZ epi-layer wafers:

I – failure of Schottky contact processing. The samples are irradiated at ~1 10^{12}, 5 10^{13}, 1 10^{14}, 5 10^{14} cm^{-2}. The samples will be sent to Vilnius for characterization.

II – half of wafer processed last week, the testing will be finished the next week. Then the parameters will be announced and the samples will be spread according the request and agreements.

Other SiC: presentatios at the workshop. (Italian groups, Glasgow).

Problem: a) slow speed in sample preparation and b) mobility of samples (DMC, also).

Question: if only IKZ SiC is interesting for the test sample fabrication? Other supplies?

==========

GaN – coordinator Juozas Vaitkus: (active: Glasgow, Surrey, Vilnius)

SI-GaN - further irradiation:

a) in Ljubljana – neutrons at fluences 1 10^{15} and 1.6 10^{16} cm^{-2}; Contribution on the workshop.

b) in CERN – 24 GeV protons: samples irradiated, wait of characterization.

Next steps: the neutron irradiated samples - further characterization in Surrey and Vilnius;

X-rays and neutron irradiated samples – investigation by TSC and luminescence: defects characteristics (Vilnius)

Problem: a growth of thicker SI-GaN epi-layer.

==========

Report on other potentially radiation hard materials (RD50) –

"**New materials for radiation hard semiconductor detectors**".

P.Sellin, J.Vaitkus.

Draft of the Report is ready, it covers SiC, GaN, a-Si(H) (and briefly others).

Next step: a) editing – next fortnight;

b) distribution to the partners (who works in "new materials are") for reviewing and adding of missing references (for 10 days);

c) final version in the second half of June (??).

---

a-Si(H) - New line ?

a) Thick a-Si(H) layer growth. (Vilnius U have tested a-Si(H) up to 50 μm for Solar cells)

b) Optimising the a-Si properties (a-Si(8%H)?) , radiation hardness investigation.

Neuchatel university, Institute of Microtechnology (P.Jarron).