

Novel Radiation Hard  
CVD Diamond Detectors for Hadron Physics



# W o r k s h o p @ **G S I**

August 30 – September 1, 2006

## A G E N D A

Wednesday, August 30

17:30	Welcome	P	P	P	GSI Guest House Foyer
19:00	Departure for dinner at restaurant 'Sitte' down town Darmstadt				

Thursday, August 31 Meeting Room ⇒ Theory seminar room SB 3.170a

9:00	Welcome - News from I3HP & NoRHDia	Elèni Berdermann (GSI, DL)
9:15	News from Element Six	Kevin Oliver (Element Six, Ascot, UK)

### Session I: CVD-Diamond Growth & Characterization

Chair: Milos Nesladek

9:30	Homoepitaxial growth progress at Saclay	Nicolas Tranchant, CEA Saclay (NoRHDia)
10:00	SC CVD Diamond Growth in Limburg	Anna Bogdan, Univ. of Hasselt, IMO Belgium
10:30	Diamond growth at MSU	Andreas Stolz, Michigan State University

### 11:00 Coffee Break

11:30	X-ray characterisation of diamonds at the ESRF	Jürgen Härtwig, ESRF Grenoble
12:00	IR and AFM studies of SC diamond for detector applications	Robert Lovrincic, Univ. of Heidelberg (KIP)
12:30	CVD diamond response in X-ray beams, and physical surface characterization	John Morse, ESRF Grenoble

### 13:00 Lunch, GSI canteen + 13:45 Photo Session at GSI's little lake (GSI Entrance)

### Session II: Detector Characterization

Chair: Wim de Boer

14:00	Transit photo-current measurements of the i-SC CVD and Ila natural diamond	Andrey Bogdan, University of Hasselt, IMO Belgium
14:30	Ion beam induced charge (IBIC) imaging in synthetic single crystal diamond	Annika Lohstroh, University of Surrey
15:00	Characterization of Polycrystalline CVD Diamond Detectors with the Munich Heavy Ion Microscope SNAKE	Sabine Schwertel, TU München

### 15:30 Coffee Break

**Session III: CVD Diamond under Extreme Beam Conditions***Chair: John Morse*

16:00	Longitudinal beam profile measurements of pulsed heavy-ion beams	Felix Wamers,	TU Darmstadt
16:30	Bunch monitoring with diamonds	Steffen Müller,	University of Karlsruhe
17:00	Destructive measurements with diamonds in a lead beam	Hannes Bol,	University of Karlsruhe
17:30	Investigation of diamond samples under high electromagnetic radiation doses at S-DALINAC	Wolfgang Lange,	DESY Zeuthen
18:00	Charge transport properties of SC CVD diamond detectors heavily irradiated with charged particles	Michal Pomorski,	GSI (NoRHDia)

**19:00 Dinner Buffet, GSI Guest House Foyer**Friday, September 1 Meeting Room  $\Rightarrow$  Theory seminar room SB 3.170a**Session IV: Diamond Detector Applications***Chair: Wolfgang Lange*

9:00	Synthetic diamonds for beam diagnostics in ion therapy setup's	Bernd Voss,	GSI (DL)
9:30	Spectrometry of heavy ions below 1 MeV/amu with ND and CVDD detectors	Peter Steier,	University of Vienna, Institut für Radioisotope und Kernphysik
10:00	Measurement of laser accelerated electrons and principle of an atto-second streak camera	Matthias Fuchs,	LMU München
10:30	The fission-fragment TOF spectrometer VERDI	Cezar Negoita,	EC-JRC, Inst. for Reference Materials and Measurements (IRMM)

**11:00 Coffee Break**

11:30	Timing measurements with CVD diamonds	Porobic Tomica,	RBI Croatia (FOPI)
12:00	Heteroepitaxial diamond detectors for HI beam tracking	Andreas Stolz,	Michigan State University
12:30	Readout concepts for position sensitive CVD diamond detectors	Roman Gernhäuser,	TU München

**13:00 Lunch, GSI canteen****Session V: Electronics for Diamond Detectors***Chair: Eugen Badura*

14:00	Fast signal processing ... An experimentalists point of view	Wolfgang Koenig,	GSI (HADES)
14:30	Status of SC-DD FE electronics for MIP timing	Andrei Caragheorghopol,	NIPNE Bucharest
15:00	A multi channel ASIC for high resolution time measurements	Michael Ritzert,	University of Mannheim
15:30	PADI, a new ASIC for RPC's and other timing detectors	Mircea Ciobanu,	GSI (FOPI)
16:00	Electronic systems for the CBM experiment at FAIR	Holger Flemming,	GSI (EE)

**16:30 End of the workshop**Contact: [e.berdermann@gsi.de](mailto:e.berdermann@gsi.de)