

## **Elenco completo delle pubblicazioni di Alessandro Lo Giudice**

P. Olivero, S. Calusi, L. Giuntini, S. Lagomarsino, A. Lo Giudice, M. Massi, S. Sciortino, M. Vannoni, E. Vittone ***Controlled variation of the refractive index in ion-damaged diamond***, *Diamond and Related Materials*, In Press, Corrected Proof, Available online 6 January 2010; doi:10.1016/j.diamond.2009.12.011

F. Picollo, P. Olivero, F. Bellotti, Ž. Pastuović, N. Skukan, A. Lo Giudice, G. Amato, M. Jakšić, E. Vittone, ***Formation of buried conductive micro-channels in single crystal diamond with MeV C and He implantation*** *Diamond and Related Materials*, In Press, Corrected Proof, Available online 13 January 2010; doi:10.1016/j.diamond.2010.01.005

C. Manfredotti, S. Calusi, A. Lo Giudice, L. Giuntini, M. Massi, P. Olivero, A. Re, ***Luminescence centers in proton irradiated single crystal CVD diamond***, Available online 6 February 2010; doi:10.1016/j.diamond.2010.02.004

### **2009**

- [2009-1] Paolo Ariano, Alessandro Lo Giudice, Andrea Marcantoni, Ettore Vittone, Emilio Carbone, Davide Lovisolo, ***A diamond-based biosensor for the recording of neuronal activity***, *Biosensors and Bioelectronics* 24 (2009) 2046–2050
- [2009-2] E. Colombo, A. Bosio, S. Calusi, L. Giuntini, A. Lo Giudice, C. Manfredotti, M. Massi, P. Olivero, A. Romeo, N. Romeo, E. Vittone, ***IBIC analysis of CdTe/CdS solar cells***, *Nucl. Instr. and Methods in Physics Research B*, 267, Issue: 12-13 (2009) 2181-2184
- [2009-3] Lo Giudice A., Re A., Calusi S., Massi M., Olivero P., Pratesi G., Albonico M., Conz E., ***Multitechnique characterization of lapis lazuli for provenance study***, *Analytical and Bioanalytical Chemistry* 395 (2009) 2211-2217
- [2009-4] P. Olivero, G. Amato, F. Bellotti, S. Borini, A. Lo Giudice, F. Picollo, E. Vittone, ***Direct fabrication and IV characterization of sub-surface conductive channels in diamond with MeV ion implantation***, *European Physical Journal B* (2009) DOI: 10.1140/epjb/e2009-00427-5

### **2008**

- [2008-1] E. Colombo, S. Calusi, R. Cossio, L. Giuntini, A. Lo Giudice, P. A. Mandò, C. Manfredotti, M. Massi, F.A. Mirto, E. Vittone, ***Recent developments of ion beam induced luminescence at the external scanning microbeam facility of the LABEC Laboratory in Florence***, *Nuclear Instruments and Methods in Physics Research B* 266 (2008) 1527–1532.
- [2008-2] S. Calusi, E. Colombo, L. Giuntini, A. Lo Giudice, C. Manfredotti, M. Massi, G. Pratesi, E. Vittone, ***The ionoluminescence apparatus at the LABEC external microbeam facility***, *Nuclear Instruments and Methods in Physics Research B* 266 (2008) 2306–2310
- [2008-3] E. Vittone, Z. Pastuovic, P. Olivero, C. Manfredotti, M. Jaksic, A. Lo Giudice, F. Fizzotti, E. Colombo, ***Semiconductor characterization by scanning ion beam induced charge (IBIC) microscopy***, *Nuclear Instruments and Methods in Physics Research B* 266 (2008) 1312–1318.
- [2008-4] C. Manfredotti, F. Fizzotti, A. Lo Giudice, Ch. Manfredotti, M. Castellino, P. Bonino, E. Vittone, ***A comprehensive study on hydrogenated diamond surfaces as obtained by using molecular hydrogen***, *Diamond and Related Materials* 17 (2008) 1154–1158.

### **2007**

- [2007-1] F. Fizzotti, A. Lo Giudice, C. Manfredotti, Ch. Manfredotti, M. Castellino, E. Vittone, ***“Diamond surface conductivity after exposure to molecular hydrogen”***, *Diamond & Related Materials* **16** (2007) 836–839
- [2007-2] C. Manfredotti a., M. Jaksic b, S. Medunic b, A. Lo Giudice a, Y. Garino a, E. Colombo a, Marco Marinelli c, E. Milani c, G. Verona-Rinati, ***“Ion Beam Induced Charge characterization of epitaxial single crystal CVD diamond”***, *Diamond & Related Materials* **16** (2007) 940–943
- [2007-3] F. Fizzotti, E. Colombo, A. Lo Giudice, C. Manfredotti, Z. Medunic, M. Jaksic, E. Vittone, ***“Measurement of charge collection profiles in irradiated silicon diodes by lateral IBIC technique”***, *Nuclear Instruments and Methods in Physics Research B* **260** (2007) 259–263
- [2007-4] A. Lo Giudice, F. Fasolo, E. Durisi, C. Manfredotti, E. Vittone, F. Fizzotti, A. Zanini, G. Rosi ***“Performances of 4H-SiC Schottky diodes as neutron detectors”***, *Nuclear Instruments and Methods in Physics Research A* **583** (2007) 177-180

## 2006

- [2006-1] A. Lo Giudice, Y. Garino, F. Fizzotti, E. Vittone, C. Manfredotti, V. Rigato, ***“Angle resolved IBIC measurements on SiC shottky diodes”***, *Nuclear Instruments and Methods in Physics Research B* **249** (2006) 213–216
- [2006-2] Y. Garino, F. Fizzotti, A. Lo Giudice, E. Vittone, C. Manfredotti, ***“The primed state of CVD diamond under blue light illumination”***, *Diamond and Related Materials* **15** (2006) 735 – 738
- [2006-3] R. Cossio, F. Fizzotti, E. Vittone, A. Lo Giudice, C. Manfredotti, S. Nistor, ***“Low temperature CL investigation of BNi vibronic structure in c-BN”***, *Diamond and Related Materials* **15** (2006) 1166–1168
- [2006-4] C. Manfredotti, A. Lo Giudice, E. Vittone, F. Fizzotti, Y. Garino, E. Pace, ***“Memory effects in CVD diamond”***, *Diamond and Related Materials* **15** (2006) 1467-1471
- [2006-5] C. Manfredotti, R. Cossio, A. Lo Giudice, E. Vittone, F. Fizzotti, ***“Vibronic spectrum of c-BN measured with cathodoluminescence”***, *Physical Review B* **74** (15): Art. No. 155204 OCT 2006
- [2006-6] Y. Garino, A. Lo Giudice, C. Manfredotti, M. Marinelli, E. Milani, A. Tucciarone, G. Verona-Rinati, ***“Performances of homoepitaxial single crystal diamond in diagnostic x-ray dosimetry”***, *Applied Physics Letters* **88** (15): Art. No. 151901 APR 10 2006
- [2006-7] A. Balducci, Y. Garino, A. Lo Giudice, C. Manfredotti, M. Marinelli, G. Pulcella, G. Verona-Rinati, ***“Radiological X-ray dosimetry with single crystal CVD diamond detectors”***, *Diamond & Related Materials* **15** (2006) 797 – 801

## 2005

- [2005-1] E. Vittone, V. Rigato, P. Olivero, F. Nava, C. Manfredotti, A. Lo Giudice, Y. Garino, F. Fizzotti, ***“Temperature dependent IBIC study of 4H-SiC Schottky diodes”***, *Nuclear Instruments and Methods in Physics Research B* **231** (2005) 491-496
- [2005-2] A. Lo Giudice, P. Olivero, F. Fizzotti, C. Manfredotti, E. Vittone, S. Bianco, G. Bertuccio, R. Casiraghi, M. Jaksic ***“Study of ion induced damage in 4H-SiC”***, *Materials Science Forum Vols. 483-485* (2005) 389-392
- [2005-3] A. Balducci, M. Jaksic, A. Lo Giudice, C. Manfredotti, M. Marinelli, S. Medunic, G. Pulcella, G. Verona-Rinati, ***“Recent IBIC measurements on epitaxial CVD diamond”***, *Diamond and Related Materials* **14** (2005) 1988-1991
- [2005-4] E. Vittone, P. Olivero, F. Nava, C. Manfredotti, A. Lo Giudice, F. Fizzotti, G. Egeni, ***“Lateral IBIC analysis of GaAs Schottky diodes”***, *Nuclear Instruments and Methods in Physics Research B* **231** (2005) 513-517
- [2005-5] A. Lo Giudice, F. Fizzotti, C. Manfredotti, E. Vittone, F. Nava, ***“Average energy dissipated by MeV hydrogen and helium ions per electron-hole pair generation in 4H-SiC”***, *Applied Physics Letters* **87** (22): Art. No. 222105 NOV 28 2005

- [2005-6] C. Manfredotti, A. Lo Giudice, F. Fasolo, E. Vittone, C. Paolini, F. Fizzotti, A. Zanini, G. Wagner, C. Lanzieri, **"SiC detectors for neutron monitoring"**, *Nuclear Instruments and Methods in Physics Research A* **552** (2005) 131-137
- [2005-7] Ariano P., Baldelli P., Carbone E., Gilardino A., Lo Giudice A., Lovisolò D., Manfredotti C., Novara M., Sternschulte H., Vittone E., **"Cellular adhesion and neuronal excitability on functionalised diamond surfaces"**, *Diamond and Related Materials* **14** (2005) 669-674

## 2004

- [2004-1] Manfredotti C., Fizzotti F., Vittone E., Paolini C., Olivero P., Lo Giudice A., **"Photocurrent study of beta-ray priming in CVD diamond"**, *Diamond and Related Materials* **13** (2004) 914-917
- [2004-2] Olivero P., Manfredotti C., Vittone E., Fizzotti F., Paolini C., Lo Giudice A., Barrett R., Tucoulou R., **"Investigation of chemical vapour deposition diamond detectors by X-ray micro-beam induced current and X-ray micro-beam induced luminescence techniques"**, *Spectrochimica Acta Part B* **59** (2004) 1565– 1573
- [2004-3] Manfredotti C., Lo Giudice A., Paolini C., Vittone E., Fizzotti F., Cossio R., **"Characterization of impurities in cubic boron nitride crystallites with thermoluminescence and ionoluminescence"**, *Physica Status Solidi A – Applied Research* **201** (11): 2566–2572 (2004)

## 2003

- [2003-1] C. Manfredotti, E. Vittone, C. Paolini, P. Olivero, A. Lo Giudice, **"Blue light sensitization of CVD diamond detectors"**, *Diamond and Related Materials* **12** (2003) 662-666
- [2003-2] Manfredotti C., Fizzotti, F., Lo Giudice, A., Jaksic M., Pastuovic, Z., Paolini C., Olivero. P., Vittone E., **"Time-resolved ion beam-induced charge collection measurement of minority carrier lifetime in semiconductor power devices by using Gunn's theorem"**, *Materials Science and Engineering: B Vol: 102 Issue: 1-3, September 15, 2003, pp. 193 – 197*
- [2003-3] C. Manfredotti, E. Vittone , F. Fizzotti, C. Paolini, P. Olivero, A. Lo Giudice, M. Jaksic, R. Barret, **"Investigation of 4H-SiC Schottky diodes by ion and X-ray micro beam induced charge collection techniques"**, *Diamond and Related Materials* **12** (2003) 667-671
- [2003-4] Vittone E., Lo Giudice A., Paolini C., Olivero P., Manfredotti C., Barrett R., Rigato V., **"Ion and X-Ray micro-beam induced charge collection and their applications in CVD diamond detector characterisation"**, *Nuclear Instruments and Methods in Physics Research B*, **210** (2003) 159-163
- [2003-5] C. Manfredotti, E. Vittone, C. Paolini, L. Bianco, F. Fizzotti, A. Lo Giudice, P. Olivero, **"Control of hydrogenation patterning for CVD diamond surfaces by AFM Local Anodic Oxidation"**, *Surface Engineering*, **19** (6) (2003) 441-446.
- [2003-6] Lo Giudice A., Pratesi G., Olivero P., Paolini C., Vittone E., Manfredotti C., Sammiceli F., Rigato V., **"Micro-IL and micro-PIXE studies of rich diamond meteorites at Legnaro nuclear microprobe"**, *Nuclear Instruments and Methods in Physics Research B*, **210** (2003) 429-433
- [2003-7] Pratesi G., Lo Giudice A., Vishnevsky S., Manfredotti C., Cipriani C., **"Cathodoluminescence investigations on the Popigai, Ries and Lappajarvi impact diamonds"**, *American Mineralogist*, **88** (2003) 1778-1787.

## 2002

- [2002-1] Manfredotti, E. Vittone, F. Fizzotti, A. Lo Giudice and C. Paolini, **"Effects of light on the "primed" state of CVD diamond nuclear detectors"**, *Diamond and Related Materials* **11** (2002) 446-450
- [2002-2] C. Manfredotti, F. Fizzotti, Lo Giudice, C. Paolini, E. Vittone, and R. Lu, **"Homogeneity of CVD diamond detectors in tracking applications"**, *Nuclear Instruments and Methods in Physics Research B* **187** (2002) 566-578

- [2002-3] E.Vittone, C.Manfredotti, F.Fizzotti, A.Lo Giudice, A.Lorenzi, S.Galassini, M.Jaksic, "*Measurements of charge collection profiles in virgin and strongly irradiated silicon diodes by means of the micro IBICC technique*", *Nuclear Instruments and Methods in Physics Research A* 476 (2002) 607-613
- [2002-4] Lu Rongrong; C. Manfredotti; F. Fizzotti; E. Vittone; A. Lo Giudice, "*Lateral micro-ion beam induced charge characterization of chemical vapor deposition diamond*", *Materials Science and Engineering: B Volume: 90, Issue: 1-2, March 7, 2002, pp. 191 – 195*
- [2002-5] E.Vittone, A. Lo Giudice, C.Paolini, F.Fizzotti, C.Manfredotti and R.Barrett, "*Imaging of charge collection properties of a CVD diamond detector using x-ray induced current microscopy*", *Diamond and Related Materials* 11 (2002) 1472-1478
- [2002-6] Rossi P, Vittone E, Doyle BL, Cherubini R, Battistella A, Gennaro G, Giacomelli L, Lo Giudice A, Manfredotti C., Zafiroopoulos D, "*ALBA: Alpha light-based analysis. A new approach to single-cell irradiation*", *Radiation Research* 158 (3): 378-379 SEP 2002

## 2001

- [2001-1] C.Manfredotti, F.Fizzotti, A. Lo Giudice, C.Paolini, E.Vittone, F.Nava, "*Investigation of 4H SiC Schottky diodes by ion beam induced charge (IBIC) technique*", *Applied Surface Science* 184 (2001) 448-454
- [2001-2] C. Manfredotti, A. Lo Giudice, C. Ricciardi, C. Paolini, E. Massa, F. Fizzotti, E. Vittone, "*CVD diamond microdosimeters*", *Nuclear Instruments and Methods in Physics Research A* 458 (2001) 360-361
- [2001-3] E.Vittone, C.Ricciardi, A. Lo Giudice, F.Fizzotti, C.Manfredotti, G.Egeni, V.Rudello, "*Micro-IBICC and micro-IL analysis of cvd diamond microdosimeters*" *Nuclear Instruments and Methods in Physics Research B* 181 (2001) 349-353
- [2001-5] E.Vittone, A.Lo Giudice, C.Manfredotti, G.Egeni, V.Rudello, P.Rossi, G.Gennaro, G.Pratesi, M.Corazza, "*Light detection with spectral analysis at the Legnaro Nuclear Microprobe: applications in erial and earth sciences*" *Nuclear Instruments and Methods in Physics Research B* 181 (2001) 134-139
- [2001-6] C. Manfredotti, E. Vittone, A. Lo Giudice, C. Paolini, F. Fizzotti, G. Dinca, V. Ralchenko, S. V. Nistor, "*Ionoluminescence in CVD diamond and in cubic boron nitride*", *Diamond and Related Materials* 10 (2001) 568-573
- [2001-7] P. Rossi, C. Di Maggio, G. P. Egeni, A. Galligioni, G. Gennaro, L. Giacomelli, A. Lo Giudice, M. Pegoraro, L. Pescarini, V.Rudello and E. Vittone, "*Cytological and histological structures identification with the technique IBIL in elemental microanalysis*", *Nuclear Instruments and Methods in Physics Research B* 181 (2001) 437-442.
- [2001-8] M. Corazza, G. Pratesi, C. Cipriani, A. Lo Giudice, P. Rossi, E. Vittone, C. Manfredotti, E. Pecchioni, C. Manganelli Del Fa, F. Fratini, "*Ionoluminescence and cathodoluminescence in marbles of historic and architectural interest*", *Archaeometry* 43, 4 (2001) 439-446

## 1997-2000

- [2000] E.Vittone, F.Fizzotti, A.LoGiudice, C.Paolini, C.Manfredotti, "*Theory of Ion beam Induced Charge Collection based on the extended Shockley-Ramo Theorem*", "*Nuclear Instruments and Methods in Physics Research B*, 161-163 (1-4) (2000) 446-451
- [1999-1] C. Manfredotti, F. Fizzotti, A. LoGiudice, P. Polesello, E. Vittone, R.Lu, M. Jaksic, "*Ion Microbeam Analysis of CVD Diamond*", *Diamond and Related Materials* 8 (1999) 1597-1601
- [1999-2] C. Manfredotti, F. Fizzotti, A. Lo Giudice, P. Polesello, E.Vittone, M.Truccato, P. Rossi, "*Ion beam induced luminescence maps in CVD diamond as obtained by coincidence measurements*", *Diamond and Related Materials*, 8 (1999), 1592-1596
- [1999-3] C. Manfredotti, F. Fizzotti, E.Gargioni, R. Lu, P. Polesello, A. Lo Giudice, E. Vittone, S.Galassini, M.Jaksic, "*Evaluation of the diffusion length in silicon diodes by means of the lateral IBIC technique*", *Nuclear Instruments and Methods in Physics Research B* 158 (1999) 476-480

- [1999-4] E.Vittone, C. Manfredotti, F. Fizzotti, K.Mirri, E.Gargioni, P. Polesello, A. Lo Giudice, S.Galassini, F.Nava, P.Vanni, P.Rossi, **"IBIC analysis of gallium arsenide Schottky diodes"**, *Nuclear Instruments and Methods in Physics Research B* **158** (1999) 470-475
- [1999-5] E.Vittone, F.Fizzotti, A.Lo Giudice, P.Polesello and C.Manfredotti, **"Room temperature CVD diamond x-ray and charge particle microdetectors"**, *Nuclear Instruments and Methods in Physics Research A* **428** (1999) 118-126
- [1999-6] E.Vittone, C.Manfredotti, F.Fizzotti, A.Lo Giudice, P.Polesello, V.Ralchenko, **"Thermoluminescence in CVD diamond film: application to radiation dosimetry"**, *Diamond and Related Materials* **8** (1999) 1234-1239
- [1999-7] E.Vittone, F.Fizzotti, A.Lo Giudice, P.Polesello and C.Manfredotti, **"A simulation of a CdTe gamma ray detector based on collection efficiency profiles as determined by lateral IBIC"**, *Nuclear Instruments and Methods in Physics Research A* **428** (1999) 81-87
- [1998-1] C.Manfredotti, G. Apostolo, A. Lo Giudice, P. Polesello, G. Cinque, M. Truccato, E. Vittone, G. Egeni, V. Rudello, P. Rossi, **"Ion Beam Induced Luminescence and Charge Collection in diamond"**, *Diamond and Related MatMaterials* **7** (1998) 742-747.
- [1998-2] C.Manfredotti, F. Fizzotti, P. Polesello, E. Vittone, M. Truccato, A. Lo Giudice, M. Jaksic, P. Rossi, **"IBIC and IBIL microscopy applied to advanced semiconductor Materials"**, *Nucl. Instr. And Meth. In Phys. Res. B* **136-138** (1998) 1333-1339.
- [1998-3] C.Manfredotti, P.Polesello, M.Truccato, E. Vittone, A. Lo Giudice, F. Fizzotti, **"CVD diamond detectors"**, *Nuclear Instruments and Methods in Physics Research A* **410** (1998) 96,98.
- [1998-4] C.Manfredotti, G.Apostolo, F.Fizzotti, A. Lo Giudice, M.Morando, R.Pignolo, P.Polesello, M.Truccato, E.Vittone, U.Nastasi, **"CVD diamond tips as nuclear and x-ray detectors"**, *Diamond and Related Materials*, **7** (1998), 523-527.
- [1997-1] C. Manfredotti, F. Fizzotti, A. Lo Giudice, G. Mucera, P.Polesello, E. Vittone, Y.A. Mankelevich, N.V. Suetin, **"Growth and characterization of CVD diamond wires for x-ray detection"**, *Diamond and Related Materials* **6** (1997) 1051-1056

## Pubblicazioni inerenti le collaborazioni RD42 ed RD50 (CERN)

- [RD50-2005-1] Fretwurst E. et al. *"Recent advancements in the development of radiation hard semiconductor detectors for S-LHC"*, Nucl Instr Meth A 552 (2005) 7-19
- [RD50-2005-2] Moll M. et al. *"Development of radiation tolerant semiconductor detectors for the Super-LHC"*, Nucl Instr Meth A 546 (2005) 99-107
- [RD50-2005-3] Bruzzi M. et al. *"Radiation-hard semiconductor detectors for SuperLHC"*, Nucl Instr Meth A 541 (2005) 189-201
- [RD42-2006-1] Adam W. et al. *"Radiation hard diamond sensors for future tracking applications"*, Nucl Instr Meth A 565 (2006) 278-283
- [RD42-2003-1] Adam W. et al. *"The development of diamond tracking detectors for the LHC"*, Nucl Instr Meth A 514 (2003) 79-86
- [RD42-2003-2] Adam W. et al. *"Status of the R&D activity on diamond particle detectors"*, Nucl Instr Meth A 511 (2003) 124-131
- [RD42-2003-3] Keil. M. et al. *"New results on diamond pixel sensors using ATLAS frontend"*, Nucl Instr Meth A 501 (2003) 153-159
- [RD42-2002-3] Adam W., et al. *"A CVD diamond beam telescope for charged particle tracking"*, IEEE transactions on Nuclear Science 49 (4): 1857-1862 Part 1 AUG 2002
- [RD42-2002-1] Adam W., et al. *"Radiation tolerance of CVD diamond detectors for pions and protons"*, Nucl Instr Meth A 476 (2002) 686-693
- [RD42-2002-2] Adam W., et al. *"Performance of irradiated CVD diamond micro-strip sensors"*, Nucl Instr Meth A 476 (2002) 706-712
- [RD42-2001-1] Krammer M. et al. *"CVD diamond sensors for charged particle detection"*, Diamond and Related Materials 10 (2001) 1778-1782
- [RD42-2001-2] Adam W., et al. *"Diamond Pixel Detectors"*, Nucl Instr Meth A 465 (2001) 88-91
- [RD42-2000-1] Adam W et al. *"Micro-strip sensors based on CVD diamond"*, Nucl Instr Meth A 453 (2000) 141-148
- [RD42-2000-2] Adam W, et al. *"Pulse height distribution and radiation tolerance of CVD diamond detectors"*, Nucl Instr Meth A 447 (2000) 244-250
- [RD42-1999-1] Adam W, et al. *"Recent results with CVD diamond trackers"*, Nucl Phys B - Proc. Sup. 78 (1999) 329-334
- [RD42-1999-2] Wedenig R, et al. *"CVD diamond pixel detectors for LHC experiments"*, Nucl Phys B - Proc. Sup. 78 (1999) 497-504 AUG 1999
- [RD42-1999-3] Hartjes F, et al., *"Parameterisation of radiation effects on CVD diamond for proton irradiation"*, Nucl Phys B - Proc. Sup. 78 (1999) 675-682
- [RD42-1999-4] Adam W, et al. *"The first bump-bonded pixel detectors on CVD diamond"*, Nucl Instr Meth A 436 (1999) 326-335
- [RD42-1999-5] Friedl M, et al., *"CVD diamond detectors for ionizing radiation"*, Nucl Instr Meth A 435 (1999) 194-201
- [RD42-1999-6] Adam W, et al., *"Review of the development of diamond radiation sensors"*, Nucl Instr Meth A 434 (1999) 131-145
- [RD42-1999-7] Schnetzer S, Adam W, Bauer C, *"Tracking with CVD diamond radiation sensors at high luminosity colliders"*, IEEE T Nucl Sci 46 (1999) 193-200