

# **2009 IEEE Nuclear Science Symposium Conference Record**

**(NSS/MIC 2009)**

**Orlando, Florida, USA  
24 October-1 November 2009**

**Pages 1-831**



**IEEE Catalog Number: CFP09NSS-PRT  
ISBN: 978-1-4244-3961-4**

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	<u>C. Fiorini</u> , P. Busca, A. Gola, R. Peloso, A. Longoni, H. Soltau, B. Hutton, K. Erlandsson, A. Pedretti, G. Poli, C. Bianchi, A. Abba, A. Geraci, G. Padovini, and F. Perotti	
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	<u>S. Joshi Kaye</u> , W. R. Kaye, and Z. He	
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	<u>G. W. Deptuch</u> , J. Hoff, A. Shenai, M. Trimpl, R. Yarema, and T. Zimmerman	
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	<u>J.-F. C. Genat</u> , M. Bogdan, H. J. Frisch, H. Grabas, M. K. Heintz, S. Meehan, E. Oberla, L. L. Ruckman, F. Tang, and G. S. Varner	
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	<u>F. F. Khalid</u> , L. L. Jones, Q. R. Morrissey, M. L. Prydderch, J. Lipp, and R. Stephenson	
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	<u>D. Henseler</u> , R. Grazioso, N. Zhang, and M. Schmand	
N28-2	<b>Pr:Lu3Al5O12 (LuAG) Scintillator Read-Out Using UV-Enhanced Avalanche Photodiode</b> .....	1949
	<u>K. Kamada</u> , T. Yanagida, J. Kataoka, A. Yoshikawa, H. Takahashi, K. Tsutsumi, T. Endo, Y. Usuki, and A. Fukabori	
N28-3	<b>Efficiency of Solid State Photomultipliers in Photon Number Resolution</b> .....	1952
	<u>S. Vinogradov</u> , T. Vinogradova, V. Shubin, D. Shushakov, and K. Sitarsky	
N28-5	<b>The Digital Silicon Photomultiplier - Principle of Operation and Intrinsic Detector Performance</b> .....	1959
	<u>T. Frach</u> , G. Prescher, C. Degenhardt, R. de Gruyter, A. Schmitz, and R. Ballizany	
N28-6	<b>The Vacuum Silicon Photomultiplier Tube (VSIPMT): a New Concept of Photon Detector. First Feasibility Results</b> .....	1966
	<u>S. Russo</u> , G. Barbarino, R. de Asmundis, and G. De Rosa	
N28-7	<b>Squaraine-based Organic Photodetector Coupled to a scintillating Crystal for X-ray Sensing Applications</b> .....	1970
	M. Binda, <u>C. Fiorini</u> , D. Natali, R. Peloso, M. Sampietro, L. Beverina, G. Pagani, A. Iacchetti, and V. Pecunia	
N29-1	<b>Active Coded Aperture Neutron Imaging</b> .....	1974
	<u>P. A. Marleau</u> , J. Brennan, E. Brubaker, J. Steele, and N. Hilton	

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	V. D. Ryzhikov, G. M. Onishchenko, L. A. Piven, B. V. Grinyov, S. M. Galkin, O. K. Lysetska, <u>T. Pochet</u> , and C. F. Smith	
N29-7	<b>Gd-Bearing Composite Scintillators as the New Thermal Neutron Detectors</b> .....	1983
	<u>N. Z. Galunov</u> , B. V. Grinyov, N. L. Karavaeva, Y. V. Gerasymov, O. T. Sidletskiy, and O. A. Tarasenko	
N30-1	<b>D-D Nuclear Fusion Using Different Sized Pyroelectric Crystals</b> .....	1989
	<u>A. M. Kovanen</u> , D. J. Gillich, T. Z. Fullem, and Y. Danon	
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	<u>F. Wulf</u> , M. Koerfer, H. -J. Grabosch, and W. Goettmann	
N30-3	<b>Monte Carlo Characterization of a Pulsed Laser-Wakefield Driven Monochromatic X-Ray Source</b> .....	1998
	<u>S. D. Clarke</u> , S. A. Pozzi, N. Cunningham, S. Banerjee, and D. Umstadter	
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	<u>W. J. McNeil</u> , S. L. Bellinger, B. J. Blalock, C. L. Britton, W. L. Dunn, C. M. Henderson, R. D. Taylor, D. S. McGregor, and T. C. Unruh	
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	<u>F. Zhang</u> , W. R. Kaye, and Z. He	
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