

SCINT 2007 Scientific Program

Monday, June 04, 2007

8:40 AM **01 - ORAL A** **Brendle** *Chair: R-Y. Zhu*

Time	Abstract Title	Presenting Author
8:30 AM	Opening Remarks	Williams, RT
8:40 AM	OA1 The CMS calorimeter in 2007: performance and physics goals	Lecoq, P
9:10 AM	OA2 The electromagnetic calorimeter of the Panda detector at FAIR/GSI	Wilms, A
9:30 AM	OA3 Overview of the 63000 PWO barrel crystals for CMS_ECAL production	Auffray, E
9:45 AM	OA4 Calorimeters with scintillators at the future linear collider	Cvach, J

10:40 AM **02 - ORAL B** **Brendle** *Chair: C. Pedrini*

Time	Abstract Title	Presenting Author
10:40 AM	OB1 Scintillator materials – achievements, opportunities and puzzles	Nikl, M
11:15 AM	OB2 Atomistic simulation of defects in wide band gap scintillators	Stanek, CR
11:30 AM	OB3 Data-driven exploration of the ionization-phonon partitioning in scintillating radiation detector materials	Ferris, KF
11:45 AM	OB4 Scintillation response of Ce-doped garnets, perovskites and silicates under α , β and γ radiation	Mares, JA
12:00 PM	OB5 Point defects as a limiting factor for Ce ³⁺ emission	Gektin, AV

2:00 PM **03 - ORAL C** **Brendle** *Chair: P. Dorenbos*

Time	Abstract Title	Presenting Author
2:00 PM	OC1 Scintillator non-proportionality	Moses, WW
2:30 PM	OC2 Energy resolution of scintillation detectors - new observations	Moszynski, M
2:45 PM	OC3 From luminescence nonlinearity to scintillation nonproportionality	Vasil'ev, AN
3:00 PM	OC4 Kinetic Monte Carlo model of scintillation mechanisms in activated alkali halides and evaluation of their contribution to nonlinear response	Kerisit, S
3:15 PM	OC5 Non-proportionality of organic scintillators and BGO	Nassalski, A

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04 - Monday Poster

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Time	Abstract Title	Presenting Author
PMo01	Production and development of scintillation materials at Bogoroditsk Technical Chemical Plant	Baberdin, AV
PMo02	Position resolution in LaBr ₃ scintillators using multi-anode photomultiplier tubes	Bloser, PF
PMo03	Measurement of photomultiplier gain using LYSO afterglow	Brasse, D
PMo04	Pixelated scintillator for X-ray imager and its effect on light output and spatial resolution	Cha, BK
PMo05	Measurements of x-ray imaging performance of granular phosphors	Cho, M
PMo06	Performance of a facility for measuring scintillator non-proportionality	Choong, W
PMo07	Advances in yield calibration of scintillators	de Haas, JTM
PMo08	Small size CsI(Tl) spectrometry efficiency and properties dependence on temperature	Dolev, E
PMo09	Generation of defects in inorganic scintillators under small dose rate irradiation	Korzhik, M
PMo10	The antisite defect-related trap in YxLu _{1-x} AlO ₃ :Ce single crystals	Fasoli, M
PMo11	On the energy resolution optimization of CsI(Tl) crystals for the R3B calorimeter	Gascon, MM
PMo12	Scintillation properties of 1 inch Cs ₂ LiYCl ₆ :Ce crystals	Glodo, J
PMo13	Luminescence properties of ZnO nanocrystals and ceramic	Grigorjeva, L
PMo14	Spectroscopic studies of Ce ³⁺ ions in lead fluoride	Happek, U
PMo15	Design of an apparatus to measure optical reflectance of scintillating crystal surfaces	Janecek, M
PMo16	Design and characterization of CMOS avalanche photodiode with charge sensitive preamplifier	Kim, K
PMo17	Scintillator and CMOS APS imager for radiography conditions	Kim, KH
PMo18	The performance of X-ray scanner using ceramic scintillator base detector module	Kim, KH
PMo19	Characteristics of europium-doped Gd ₂ O ₃ phosphors for diagnostic x-ray imaging detectors	Kim, S-Y
PMo20	Probing the concepts of photonic crystals on scintillating materials	Kronberger, M

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PMo21	Improving the light yield of scintillating crystals by surface treatment	Kronberger, M
PMo22	Optimization of scintillation crystal geometry and finish for moment based depth of interaction detection	Lerche, CW
PMo23	Optical and scintillation properties of heavy crystal scintillators	Mao, R
PMo24	A Concept for a Compton Effect Based Dosimeter Calibration System	Morhaim, C
PMo25	Growth and scintillation properties of large size LuYAP crystals	Musolino, MM
PMo26	La ³⁺ , Y ³⁺ , Yb ³⁺ - impurity effect on cross-luminescence of BaF ₂ crystals	Myasnikova, AS
PMo27	Performance of PWO-II prototype arrays for the EMC of PANDA	Novotny, RW
PMo28	Suppression of host luminescence in the Pr:LuAG scintillator	Ogino, H
PMo29	Surface passivation effect on CZT Schottky and Ohmic contacts	Park, SH
PMo30	Relaxed electronic excitations in lead tungstate crystals	Rakov, A
PMo31	Study of the relationship between scintillator electron response non proportionality and gamma ray energy resolution	Reutter, BW
PMo32	Transfer and trapping of electrons in crystals CaF ₂ -O ₂ - and CaF ₂ -Eu ²⁺	Shendrik, RY
PMo33	Modifications of light emission spectra and atomic structure of europium molybdate bulk crystals by high pressure and thermal treatments	Klassen, NV
PMo34	Scintillation properties of pure CsI and CsI doped with CsBr	Swiderski, LM
PMo35	Light pulse shape dependence on γ -rays energy in CsI(Tl)	Syntfeld-Kazuch, A
PMo36	Design rules for scintillating radiation detection materials: compromises between luminosity, stopping power, and efficiency	Webb-Robertson, BM
PMo37	Large area APDs for the PANDA-EMC	Lewandowski, B
PMo38	Single crystal growth and luminescence properties of CeF ₃ -CaF ₂ solid solution grown by the micro-pulling-down method	Yoshikawa, A
PMo39	Comparison of Pr: {Lu} ₃ [Ga,Al] ₂ [Al] ₃ O ₁₂ (LuGAG) single crystal grown by the micro-pulling-down method and Cz method	Yoshikawa, A
PMo40	Imaging characteristics of a-Se based hybrid-type flat panel detector using high resolution phosphor screen	Yun, M
PMo41	Radiation damage in large size LSO and LYSO crystal samples	Zhang, L
PMo42	Intrinsic and Ce ³⁺ related luminescence of the single crystal and single crystalline films of YAP and YAP:Ce perovskites: new results	Zorenko, YV

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Tuesday, June 05, 2007

8:30 AM **05 - ORAL D** **Brendle** *Chair: K. Ferris*

Time	Abstract Title	Presenting Author
8:30 AM	OD1 Scintillators for security applications	Peurrung, AJ
9:10 AM	OD2 Li-based thermal neutron scintillator research; Rb ₂ LiYBr ₆ : Ce ³⁺ and other elpasolites	Birowosuto, MD
9:30 AM	OD3 Evaluation of melt-grown, ZnO single crystals for use as α -particle detectors	Neal, JS
9:45 AM	OD4 Gamma ray imaging with LaBr ₃ :Ce scintillators	Cherry, M

10:40 AM **06 - ORAL E** **Brendle** *Chair: A. Wojtowicz*

Time	Abstract Title	Presenting Author
10:40 AM	OE1 New cerium-activated phosphate glass scintillators	Boatner, LA
11:15 AM	OE2 Luminescence and scintillation properties of Ce ³⁺ , Pr ³⁺ , and Sc ³⁺ - doped Lu ₃ Al ₅ O ₁₂ ceramic	Van Loef, EV
11:30 AM	OE3 Growth and properties of LuAP:Ce with complex and simple substitutions	Petrosyan, AG
11:45 AM	OE4 Antisite Ce ³⁺ +Al centers in perovskites and garnets: ESR and luminescence study	Babin, V
12:00 PM	OE5 Czochralski growth and scintillation properties of 2inch-size Pr:Lu ₃ Al ₅ O ₁₂ (LuAG) single crystal	Kamada, K

2:00 PM **07 - ORAL F** **Brendle** *Chair: J. Mares*

Time	Abstract Title	Presenting Author
2:00 PM	OF1 Physics of lead tungstate scintillators	Zazubovich, SG
2:35 PM	OF2 Radiation hardness and recovery processes of PWO crystals at -25°C	Novotny, RW
3:00 PM	OF3 Transformations of absorption and emission centers in PbWO ₄	Bohacek, P
3:15 PM	OF4 Scintillation mechanism in complex structure doped oxides and novel developments	Korzhik, M

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08 - Tuesday Poster

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Time	Abstract Title	Presenting Author
PTu01	Comparison of LaBr ₃ :Ce, LaCl ₃ :Ce, CZT and NaI(Tl) for resolution of nuclear material spectra	Alexiev, D
PTu02	Afterglow suppression and non-radiative charge-transfer in CsI:Tl,Sm	Bartram, RH
PTu03	Investigation of ZnWO ₄ crystals as an absorbers in the CRESST dark matter search	Bavykina, IV
PTu04	Charge carrier and exciton dynamics in LaX ₃ :Ce ³⁺ scintillators (X=Br, Cl)	Bizarri, GA
PTu05	An advanced scintillator-based Compton telescope	Bloser, PF
PTu06	Electronic structure studies of Ce-doped gamma detector materials	Canning, AM
PTu07	Luminescence and scintillation properties of barium and strontium iodides doped with rare-earth ions	Cherginets, VL
PTu08	ZnSe radiation detector with various signal collecting method	Cho, YH
PTu09	Structural and scintillation properties of cerium-doped Ba ₂ LaF ₇ and Ba ₂ LaCl ₇	Edgar, A
PTu10	Vacuum deposited ZnSe(Te) scintillating layers	Fedorov, A
PTu11	The ZnSe(O) - perspective scintillation material for medical computer tomography	Galkin, SM
PTu12	Luminescence properties and morphology of ZnSe(Te) films	Gaysinskiy, VB
PTu13	Measurement and simulation of the neutron response and detection efficiency of a Pb-scintillating fiber calorimeter	Happacher, F
PTu14	Scintillation properties of a Ba _x Sr _{1-x} Cl ₂ single crystal	Kim, J
PTu15	Intrinsic luminescence of single crystalline films and single crystals of LuAP and LuAP:Ce perovskites	Kolobanov, M
PTu16	Ce-doped YAG and LuAG epitaxial films for scintillation detectors	Kucera, M
PTu17	Performance of an 8x8 array of LaBr ₃ (Ce) pixels coupled to a multi- anode PMT	Kurosawa, S
PTu18	A method of sensitivity enhancement of liquid xenon emission detectors for dark matter search	Kwong, J
PTu19	Growth and scintillation properties of ZnSe:Te and ZnSe:Al,O,Te semiconductors	Lee, W
PTu20	Luminescence properties of ZnSe:Te and ZnSe:O crystals grown by Bridgman-Stockbarger method	Lee, W

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PTu21	Monte Carlo modeling and analysis of structured CsI scintillator-coupled pixel detectors	Lim, C
PTu22	"Semi-transparent" X-ray beam monitor based on nanometric phosphor powder deposited on thin carbon plate	Martin, T
PTu23	CASTER – A LaBr ₃ -based gamma ray imager for NASA's Black Hole Finder Probe	McConnell, M
PTu24	Using thin films to rapidly screen potential scintillators	Milbrath, BD
PTu25	EPR and luminescence of F ⁺ centers in bulk and nanophosphor oxyorthosilicates	Cooke, W
PTu26	Application of ⁶ LiI(Eu) scintillators with photodiode readout for neutron counting in mixed gamma-neutron fields	Pausch, G
PTu28	Charge transfer luminescence of Yb-doped oxide crystals: overview, new results and perspectives	Pedrini, CG
PTu29	Combinatorial chemical synthesis of scintillator materials	Powell, JD
PTu30	Thin LSO-based scintillating mixed-crystal grown by liquid phase epitaxy for high resolution X-ray imaging	Rack, A
PTu31	Energy dissipation in impurity doped alkaline-earth fluorides	Radzhabov, EA
PTu32	Influence of RE-doping on the scintillation properties of LSO crystals	Ren, G
PTu33	The promising detectors for nuclear planetology	Rogozhin, A
PTu34	EPR of intrinsic radiation defects in LiYF ₄ crystal	Rogulis, U
PTu35	Luminescence and scintillation characteristics of the SrCl ₂ single crystal for the neutrinoless β^+ /EC decay search	Rooh, G
PTu36	Intrinsic luminescence and band structure of Lu ₂ SiO ₅ and Y ₂ SiO ₅ crystals	Shlygin, ES
PTu37	Electronic structure of Pb- and non-Pb based phosphate scintillators	Singh, DJ
PTu38	Radiative decay of electronic excitations in ZrO ₂ nanocrystals and macroscopic single crystals	Smits, K
PTu39	Brighter and faster LSO:Ce	Spurrier, MA
PTu40	Novel trends in development of A ₂ B ₆ -based scintillators	Starzhinskiy, NG
PTu41	Positron lifetime calculations for ZnO with vacancies	Takenaka, H
PTu42	High-energy photon detection with LYSO crystal array	Thiel, M
PTu43	Industrial application of detectors on the basis of "scintillator-photodiode" system	Tkacheva, TV
PTu44	Novel technique of scintillator CsI (Tl) crystal growth	Tkacheva, TV

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| PTu45 Trapping and migration of polarons and excitons in scintillators:
CsI and LaBr ₃ | Van Ginhoven, RM |
| PTu46 Ce ³⁺ doped KDP crystals, a new scintillation detector for
registration of neutrons in high-intensity mixed (n, γ)-fields | Starzhinskiy, NG |
| PTu47 Development of novel polycrystalline ceramic scintillators | Wisniewski, DJ |
| PTu48 A fast screening technique to evaluate scintillation response | Zhang, Y |

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Wednesday, June 06, 2007

8:30 AM

09 - ORAL G

Pugh

Chair: C. Woody

Time	Abstract Title	Presenting Author
8:30 AM	OG1 Scintillators in interplanetary space missions	Owens, A
9:05 AM	OG2 The Lunar Occultation Observer (LOCO): A hard x-ray all-sky survey mission concept	Miller, RS
9:25 AM	OG3 CeBr3 scintillator development for space missions	Dorenbos, P
9:40 AM	OG4 Scintillators for geophysical exploration	Berheide, M
10:15 AM	OG5 (Lu-Y)AlO ₃ :Ce scintillator for well logging	Korzhik, M

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Thursday, June 07, 2007

8:30 AM **10 - ORAL H** **Brendle** *Chair: W. Moses*

Time	Abstract Title	Presenting Author
8:30 AM	OH1 A history of PET instrumentation	Eriksson, L
9:00 AM	OH2 Special applications for scintillating crystals in medical imaging	Woody, C
9:30 AM	OH3 An operative mini gamma camera for sentinel lymph node procedure using a GSO:Ce inorganic scintillating crystal	Salvador, S
9:45 AM	OH4 Timing and energy response of six prototype scintillators	Kyba, CCM

10:40 AM **11 - ORAL I** **Brendle** *Chair: P. Lecoq*

Time	Abstract Title	Presenting Author
10:40 AM	OI1 Liquid xenon scintillator for dark matter detection	Ni, K
11:00 AM	OI2 Development of low background CsI(Tl) crystals and search for WIMP	Kim, H
11:15 AM	OI3 Luminescence of RE oversaturated crystals	Gektin, AV
11:30 AM	OI4 One-, two-, and nano-dimensional scintillators	Dujardin, C
11:45 AM	OI5 Thermally induced 4f – 5d transitions in LuAlO ₃ :Ce (LuAP)	Wojtowicz, AJ
12:00 PM	OI6 Spatial distribution of electron-hole pairs created by photons in detector materials	Gao, F

2:00 PM **12 - ORAL J** **Brendle** *Chair: M. Korzhik*

Time	Abstract Title	Presenting Author
2:00 PM	OJ1 Combinatorial synthesis and scintillator development	Xiang, X
2:30 PM	OJ2 LBNL facility for new scintillator material discovery	Derenzo, SE
2:45 PM	OJ3 Europium- or cerium-doped barium halide scintillators for x-ray and γ -ray detections	Selling, J
3:00 PM	OJ4 A ceramic version of the LSO scintillator	Glodo, J
3:15 PM	OJ5 Effect of codopants on luminescence of GdTaO ₄ :Eu ³⁺ scintillator	Gu, M

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13 - Thursday Poster

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Time	Abstract Title	Presenting Author
PTh01	Deep VUV scintillators for detectors working in cryogenic environment	Babin, V
PTh02	GdI ₃ : Ce ³⁺ and its performance against other iodide scintillators	Birowosuto, MD
PTh03	Luminescence properties of nano-sized x-ray phosphors prepared by solution combustion method	Cho, S
PTh04	Monte Carlo simulation of spatial resolution in phosphor coupled CMOS-type digital mammography system	Choi, C
PTh05	EPR spectra of radiation defects in YVO ₄ crystals	Fedotovs, A
PTh06	Luminescence and afterglow of RE doped LiCaAlF ₆ and LiSrAlF ₆ crystals	Gektin, AV
PTh07	Scintillation properties of PbI ₂ :Te	Glodo, J
PTh08	Mixed lutetium iodide compounds	Glodo, J
PTh09	Recent developments on LuAG:Ce single crystal fibers	Hautefeuille, B
PTh10	Development of new technology for the manufacturing of nanocrystalline silicate scintillation materials	Jalabadze, N
PTh11	Characterization of scintillation properties of Gd doped lead chloride at low temperature	Kim, S
PTh12	Luminescence and scintillation properties of CeBr ₃ single crystal	Kim, S
PTh13	Application of scintillating fibers for cross – bar radiation detector matrices	Klassen, NV
PTh14	Application of nanoscintillators for medical imaging and anticancer therapy	Klassen, NV
PTh15	Large volume CaMoO ₄ scintillation crystals	Korzhik, M
PTh16	Control of energy storage effect in Lu ₂ SiO ₅ :Ce ³⁺ nanoclusters	Masalov, AA
PTh17	SSPM readout of LSO, (Lu-Y)AP:Ce and PWO-II pixels for PET detector modules	Musienko, YV
PTh18	Growth of ZnWO ₄ scintillation crystal for high sensitivity 2 β experiments	Nagornaya, LL
PTh19	New detection configuration for radio-HPLC based on organic and inorganic scintillation crystals	Dolev, E
PTh20	Scintillation properties of CsI:Tl crystals codoped with Sm ²⁺	Ovechkina, EE

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PTh21	Time-resolved luminescence characteristics of nanocrystalline CaWO ₄	Pankratov, V
PTh22	Growth and study of Yb-doped oxides for charge transfer luminescence	Petrosyan, AG
PTh23	Lanthanum halide scintillation spectrometer light yield and pulse shape for gamma-rays and particles	Quarati, FGA
PTh24	Characterization by photoelectron and optical spectroscopies of RE doped sesquioxides	Retot, HL
PTh25	Mixed KDP/ADP (K _{1-x} (NH ₄) _x H ₂ PO ₄): Tl ⁺ crystals, a selectively sensitive scintillator for registration of fast neutrons: growth and properties	Starzhinskiy, NG
PTh26	On the luminescence of LuCl ₃ :Pr ³⁺ under 4f ₂ → 4f ₁₅ d ₁ and band gap excitation	Srivastava, AM
PTh27	Monte Carlo simulation of photon transport in a scintillation crystal array	Sun, X
PTh28	Signal processing of four joint H8500 under a scintillation crystal array	Sun, X
PTh29	YCl ₃ :Ce and YBr ₃ :Ce crystals as scintillation detectors of x- and soft γ-radiation	Trefilova, LN
PTh30	Photo- and radiation-stimulated processes in CsI(Tl) crystals	Trefilova, LN
PTh31	Fine granular calorimeter with scintillator strips and new photon sensor readout	Uozumi, S
PTh32	Effect of calcining conditions on the valency state of Ce in SrHfO ₃ scintillators	Van Loef, EV
PTh33	Effect of excitation density on yield and non-exponential decay of CdWO ₄ STE emission	Vasil'ev, AN
PTh34	Applications of Monte Carlo method to simulate X-ray interaction in Xe	Xie, Y
PTh35	Energy transfer to Pr ³⁺ ions in Pr:Lu ₃ Al ₅ O ₁₂ (LuAG) single crystal	Yoshikawa, A
PTh36	Excitation energy transfer in CeF ₃ single crystals doped with Sr ²⁺	Yoshikawa, A
PTh37	Cascaded model analysis of pixellated scintillator imaging detectors	Youn, SM
PTh38	Crystal growth and scintillating properties of Zr/Si-codoped YAlO ₃ :Pr ³⁺	Zhuravleva, M
PTh39	Growth and luminescence properties of YAG and YAG:Ce single crystalline films grown by liquid phase epitaxy from Ba-based flux	Zorenko, YV
PTh40	Growth and luminescence properties of AWO ₄ and AWO ₄ :Bi (A=Ca, Cd) single crystalline film scintillators	Zorenko, YV

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Friday, June 08, 2007

8:30 AM **14 - ORAL K** **Brendle** *Chair: M. Nikl*

Time	Abstract Title	Presenting Author
8:30 AM	OK1 Control of electron-phonon dynamics by quantum confinement in isolated Y2SiO5:Pr3+ nanocrystal	Malyukin, YV
8:45 AM	OK2 Luminescence properties of nanocrystalline YAG	Pankratov, V
9:00 AM	OK3 Combinatorial thin film synthesis of scintillation materials	Peak, JD
9:15 AM	OK4 Science and application of nanophosphors	Muenchausen, RE
9:30 AM	OK5 Characterization of CsI:Tl recrystallization after liquid phase deposition	Olsen, UL
9:45 AM	OK6 Scintillating silica fibers: microscopical material properties and in vivo dosimetry applications	Vedda, A

10:40 AM **15 - ORAL L** **Brendle** *Chair: A. Gektin*

Time	Abstract Title	Presenting Author
10:40 AM	OL1 Advancement in development of photomultipliers dedicated to new scintillators studies	Kapusta, M
11:00 AM	OL2 Performance of 4.4-mm ² SiPMs with CMS HO in a CERN test beam	Heering, AH
11:15 AM	OL3 Crystal growth and potential utilisation of single crystal fibers in medical devices	Hautefeuille, B
11:30 AM	OL4 Y3Al5O12:Ce and Lu3Al5O12:Ce garnets single crystal and single crystalline film scintillators: what are the centers of luminescence?	Zorenko, YV
11:45 AM	OL5 Advantages and problems of nanocrystalline scintillators	Klassen, NV
12:00 PM	OL6 The quest for the ideal scintillator for hybrid phototubes	Lubsandorzhev, BK

12:15 PM **Closing Session** **Brendle**

Time	Abstract Title	Presenting Author
12:15 PM	Scientific summary	Melcher, C
12:45 PM	Announcement of SCINT 2009	Williams, RT