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Pfinztal, 31.3.1999

Dear Dr. Raffoul,

we are organizing an International Conference on

„Energetic Materials “

from June 29 to July 2, 1999 in Karlsruhe, Germany.

The main topics of this Conference will be:

- Modeling of Phenomena
- Experimental Characterization
- Environmental Engineering

We are enclosing a preliminary program of the Conference. You will see that we have 96 contributions:

14 from USA:

No. 1, 38, 85: NSWC Indian Head

No. 57-60: Naval Research Laboratory

No. 41: ARDEC, Picatinny

24 from Russia

14 from Germany,

8 from UK (GB)

6 from France

6 from China

5 from The Netherlands

2 from Spain

1 from Portugal

44 from other countries

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We also enclose an estimation of the costs of the Conference and would appreciate it if you could give us a contribution.

Sincerely yours,



(Dr. Fred Volk)

Enclos.:

- Announcement and Call for Paper
- Preliminary program
- Estimation of the costs

Sources of Income for the Conference

	DM	\$
a) Contributions by non-conference agencies	-	-
b) Registration fees of attendees including proceedings and conference literature	240000.-	133332.-
c) Special fees	-	-
d) Conference literature: DM 150.- / exemplar	-	-
e) Financial support from US Army	4000.-	2222.-
f) Financial support requested from US Air Force	4000.-	2222.-
g) Financial support requested from Navy	4000.-	2222.-
h) The difference will be regulated by our Institute	8000.-	4444.-
	260000.-	144442.-

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Preliminary program

1.

Energetic liquid azido nitramines

R.L. Simmons,
Naval Surface Warfare Center, Indian Head, USA

2.

Numerical modelling of the dependence of impact sensitivity on the properties of explosives

A.V. Dubovik,
Semenov Institute of Chemical Physics RAS, Moscow, RUSSIA

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Entwicklung eines Kombi-Treib-/Sprengstoffs für den Einsatz in low-cost
Unterwasserlaufkörpern

H.P. Hebekeuser, H.P. Mackowiak, R. Schöffl,
Dynamit Nobel GmbH, Burbach-Würgendorf, D

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Some relationships for explosion initiation in binary compositions oxidizer-fuel during the impact

V.A. Teselkin, A.V. Dubovik,
Semenov Institute of Chemical Physics RAS, Moscow, RUSSIA

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Effect of additives on the burning rate of solid fuel in the flow of gaseous oxygen

N.N. Bakhman,
Institute of Chemical Physics RAS, Moscow, RUSSIA

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Prüfmethode EMBLA zur Bestimmung der linearen Brenngeschwindigkeit von
Treibladungspulver

K. Kupzik, H. Niggemeyer, T. Barski,
WIWEB, Swisttal, D

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Wirkungsprediction hinsichtlich von IED/USBV auf die Umgebung und Gefahrobjekte

L. Lukacs,
Militäruniversität „Zrinyi Miklos“, Budapest, H
O. Mueller,
Budapest, H

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Indirekte Karl-Fischer-Titration - ein neuer Weg zur Bestimmung der Feuchtigkeit in
Explosivstoffen
Indirect Karl Fischer Titration - a new method to determine the moisture content of explosives

S. Wilker, G. Schiemann,
WIWEB, Swisttal-Heimerzheim, D

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The thermal decomposition of polyfunctional azidocompounds

R.S. Stepanov, L.A. Kruglyakova,
Siberian State Technological University, Krasnoyarsk, RUSSIA

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A quantitative approach for the determination of the age life of a pyrotechnic material in an airbag inflator

M.W. Barnes, C. Hock,
Autoliv ASP Inc., Ogden, USA

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Characterization of NTO-based pressed PBX-formulations

F.C. Fouche, H.C. Bezuidenhout, F.A. Venter,
Naschem, RSA
C.E. du Toit,
Somchem, RSA

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Procedure for selection of molecular structures of explosives having high performance

P. Vavra,
University of Pardubice, Pardubice, CZ

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Calculation of detonation heat by EXPLO5 computer code

M. Sucaska,
Brodarski Institute, Zagreb, CROATIA

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Physics of Nitrozoamine combustion as a monopropellant and as an ingredient of modern propellants

A.A. Zenin, S.V. Finjakov, N.G. Ibragimov,
Semenov Institute of Chemical Physics RAS, Moscow, RUSSIA

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Comparison of two HTPB based composite propellants by dynamic mechanical analysis

A. Göcmez, M.Y. Özen, F. Pekel,
Defense Industries Research and Development Institute, Ankara, TR
S. Özkar,
Middle East Technical University, Ankara, TR

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To ultrafine diamond formation mechanism under detonation synthesis and its yield dependence on external conditions

A.Y. Babushkin, A.I. Lyamkin, G.A. Chiganova,
Krasnoyarsk State Technical University, Krasnoyarsk, RUSSIA

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Attractive soft-sphere equation of state

A.Y. Babushkin, A.I. Lyamkin,
Krasnoyarsk State Technical University, Krasnoyarsk, RUSSIA

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Interaction of Glycidyl azide polymer plasticizer with other polymers

A.P. Manzara, R.W. Hunter,
3M Chemicals Division, St. Paul, USA

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Modelling experiments of penetration into cased materials

D. Davis, W. Huntington-Thresher, A. Kosecki, P.D. Church, D.C. Mullenger,
DERA Fort Halstead, Sevenoaks, GB

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Mechanical properties of a porous material studied in a high speed piston driven compaction experiment

J.F. Moxnes,
FFI, Kjeller, N
G. Odegardstuen,
Nammo Raufoss AS, Raufoss, N
A. Atwood, P. Curran,
Naval Air Warfare Center Weapons Division, China Lake, USA

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Improvement of Hydrazinium Nitroformate product characteristics

M.I. Rodgers,
ICI Nobel Enterprises, Stevenston, GB
A.E.D.M. van der Heijden,
TNO-PML, Rijswijk, NL
W.H.M. Veltmans,
Aerospace Propulsion Products bv, Bergen op Zoom, NL

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The ICT-Thermochemical Database

H. Bathelt, F. Volk, M. Weindel,
Fraunhofer ICT, Pfinztal, D

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Triazolyl-1,2,5-oxadiazoles - a new class of energetic compounds

L.V. Batog, V.Y. Rozhkov, L.S. Konstantinova, A.N. Blinnikov, N.N. Makhova, T.S. Pivina,
N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, RUSSIA

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4-amino-3-azidocarbonylfuroxan as an universal synton for the synthesis of high energetic compounds of furoxan series

N.N. Makhova, A.S. Kulikov, I.V. Ovchinnikov, T.S. Pivina,
N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, RUSSIA

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Role of chain reactions at thermal decomposition of RDX in solution

Y. Shu, V.V. Dubikhin, G.M. Nazin, G.B. Manelis,
Institute of Chemical Physics RAS, Chernogolovka, RUSSIA

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Ab initio study of mechanism of gas-phase monomolecular destruction of Nitroethylene

A.G. Shamov, G.M. Khrapkovskii,
Kazan State Technological University, Kazan, RUSSIA

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Eco-friendliness in the production of high energy materials - a case study of HMX production

M.V. Rajopadhye, P.R. Hima, R.K. Syal,
High Energy Materials Research Laboratory, Pune, IND

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Unempfindliche Anzündmischungen für moderne Treibladungen

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Oerlikon Contraves Defence Pyrotec AG, Studen, CH
B. Berger,
Gruppe Rüstung, Thun, CH

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Characterisation of thermal runaway reactions in energetic solid materials using accelerating rate calorimetry

P.F. Bunyan, D.A. Tod,
DERA Fort Halstead, Sevenoaks, GB

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Crystal growth rate and impurity effect during RDX crystallization

J.H. ter Horst,
Delft University of Technology, Delft, NL
R.M. Geertman,
Akzo Nobel Central Research, Arnhem, NL
A.E. van der Heijden, G.M. van Rosmalen,
TNO-PML, Rijswijk, NL

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Underwater explosion of aluminized emulsion explosives

Y. Kato, K. Takahashi, A. Torii, K. Kurokawa, H. Hattori,
NOF Corporation, Chita-gun Aichi, JAP

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Determination of the detonation energy and some of the energetic characteristics of various
NTO-based formulations

G.J. Ellis, H.C. Bezuidenhout,
NASCHEM, Potchefstroom, RSA

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Kinetics of thermal decomposition of Hexanitrohexaazaisowurtzitane

B. Korsounskii, V. Nedelko, N. Chukanov, T. Larikova,
Institute for Chemical Physics RAS, Chernogolovka, RUSSIA
F. Volk,
Fraunhofer ICT, Pfingsttal, D

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Micro-inclusions in HMX crystals

A.E.D.M. van der Heijden, W. Duvalois, C.J.M. van der Wulp,
TNO-PML, Rijswijk, NL

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Some peculiarities of the alkaline hydrolysis of Nitrocellulose

B. Lurie, V. Malchevski,
Mendeleev University of Chemical Technology, Moscow, RUSSIA

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An environmentally favorable continuous process for the synthesis of BDNPA/F

R.B. Wardle, R.S. Hamilton, M. Geslin, V. Mancini, D. Merrill,
Thiokol Propulsion, Brigham City, USA

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A fully recyclable oxetane TPE rocket propellant

R.B. Wardle, R.S. Hamilton, C. Hughes,
Thiokol Propulsion, Brigham City, USA

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Development of tough TPE gun propellants

P.C. Braithwaite, A. Sanderson, R.B. Wardle,
Thiokol Propulsion, Brigham City, USA
L.E. Harris, T. Manning, K. Klingaman,
US Army ARDEC, Picatinny Arsenal, USA
T. Stephens,
Naval Air Warfare Center, China Lake, USA
S. Prickett,
Naval Surface Warfare Center, Indian Head, USA

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A study of the laser ignition of HMX/carbon black compositions

S.G. Goveas, R.C. Drake,
AWE plc, Aldermaston, GB

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Non-uniformity of elementary unit composition of Cellulose nitrates and ion-molecular species of nitrating mixtures

V.I. Kovalenko,
Kazan State Technological University, Kazan, RUSSIA

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Performance and hazard characterization of CL-20 formulations

M. Mezger, S.M. Nicolich, D.A. Geiss Jr.,
US Army TACOM-ARDEC, Picatinny Arsenal, USA
R.L. Hatch, K.E. Lee,
Thiokol Corporation, USA

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Thermodynamic modeling of detonation of hydrazine-nitromethane-methanol liquid mixtures

S.B. Victorov, S.A. Gubin, I.V. Maklashova,
Moscow State Engineering Physics Institute, Moscow, RUSSIA

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End game logic of target coverage for anti tactical ballistic missile

L.-M. Chao,
Chung Shan Institute of Science and Technology, Lung-Tan Taiwan, ROC

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Distributed activation energy model for thermal decomposition kinetics of plastic bonded explosives

T.-F. Yeh,
Chung Cheng Institute of Technology, Taoyuan Taiwan, ROC

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Dynamisch mechanische Eigenschaften schnellbrennender rauchreduzierter Festtreibstoffe

P. Gerber, S. Eisele, K. Menke,
Fraunhofer ICT, Pfinztal, D

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Modelling and experimental evidence of mechanical stresses and analytical determination of ferrocene migration for an end burning propellant grain

K. Menke, E. Geißler, G. Bunte,
Fraunhofer ICT, Pfinztal, D
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Dynamit Nobel Explosivstoff und Systemtechnik GmbH, D

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Sensitivity and thermal analysis of MTV igniter composition

V.S. Bhingarkar, H.J. Gandhi, P.A. Phawade, H. Singh,
High Energy Materials Research Laboratory, Pune, IND

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Universidad Carlos III de Madrid, Leganes, E
A.J. Criado,
Universidad Complutense de Madrid, Madrid, E
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ONERA, Chatillon Cedex, F

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N.D. Zelinsky Institute of Organic Chemistry RAS, Moscow, RUSSIA
A.A. Porollo, T.V. Petukhova, V.P. Ivshin,
Mari State University, Yoshkar-Ola, RUSSIA

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Y.N. Matyushin, T.S. Konkova, L.M. Kostikova,

Semenov Institute of Chemical Physics RAS, Moscow, RUSSIA
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Lomonosov State University, Moscow, RUSSIA

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Thermochemical properties and quantum-chemical parameters of benzofuroxans and benzofurazans derivatives

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Semenov Institute of Chemical Physics RAS, Moscow, RUSSIA
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Comparativ studying combustion of composite propellants containing ultra fine aluminum

V.N. Simonenko, V.E. Zarko,
Institute of Chemical Kinetics and Combustion, Novosibirsk, RUSSIA

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Naval Research Laboratory, Washington, USA

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The laser-induced reaction chemistry and kinetics of ammonium perchlorate at static high pressures

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Naval Research Laboratory, Washington, USA

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Probing the deflagration/detonation chemistry of RDX

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Naval Research Laboratory, Washington, USA

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Naval Research Laboratory, Washington, USA

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DMA solid propellant properties and the assesment of the service life of a rocket motor

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Laboratorio Quimico Central de Armamento, Madrid, E

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TDW, Schrobenhausen, D

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M. Held, L. Chun,
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Bulk ageing effects in double base propellant

G.M. Kavanagh, D.A. Tod, R. White,
DERA Fort Halstead, Sevenoaks, GB

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V.V. Klyucharev,
Institute of New Chemical Problems RAS, Chernogolovka, RUSSIA

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Shock initiation studies of composite gun propellants

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DERA Fort Halstead, Sevenoaks, GB

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DLR Lampoldshausen, Hardthausen, D
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W.A. Trzcinski, S. Cudzilo, L. Szymanczyk,
Military University of Technology, Warsaw, PL

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Plasticised PolyGLYN binders for composite energetic materials

M.D. Cliff,
DSTO, Salisbury, AUS
A.V. Cunliffe,
DERA Fort Halstead, Sevenoaks, GB

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Characterisation of RDX and HMX surfaces using gas chromatography

S.A. Torry, A.V. Cunliffe, D. Tod,
DERA Fort Halstead, Sevenoaks, GB

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E.-C. Koch, A. Dochnahl,
Piepenbrock Pyrotechnik GmbH, Göllheim, D

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Xian Modern Chemistry Research Institute, Xian, PRC

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University of Coimbra, Coimbra, P
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Study on ability of PPB strong igniting composition

Cheng Yi, Chen Shouwen, Wu Yajun, Zhu Hongfeng,
Nanjing University of Science and Technology, Nanjing, PRC

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Nanjing University of Science and Technology, Nanjing, PRC

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O.P. Korobeinichev, T.A. Bolshova, A.A. Paletsky,
Institute of Chemical Kinetics and Combustion RAS, Novosibirsk, RUSSIA

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Gasdynamics of filling and ignition of elastic stagnation zones of large-sized solid rocket motors

A.B. Vorozhtsov, S.S. Bondarchuk,
Tomsk State University, Tomsk, RUSSIA

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Rheological behaviour of a paste material

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Characterisation of impurities in CL20

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MOD, Bristol, GB

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Naval Air Warfare Center Weapons Division, China Lake, USA

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Mendeleev University of Chemical Technology, Moscow, RUSSIA

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Mendeleev University of Chemical Technology, Moscow, RUSSIA

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Naval Surface Warfare Center, Indian Head, USA

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TNO PML, Rijswijk, NL

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TNO PML, Rijswijk, NL

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Fraunhofer ICT, Pfinztal, D

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The effect of silicane coupling agent on TATB based PBX

Ji Guangfu, Luo Shunhuo,
Institute of Chemical Materials CAEP, Chengdu, CHINA

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Evaluation of PBXs viscoelastic properties and aging behavior by DMA

Hao Ying, Li Jingming,
Institute of Chemical Materials CAEP, Chengdu, CHINA

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The effect of copper catalyst in double-base and nitro-amine modified propellant

Wang Jiang-Ning, Wang Bai-Cheng, Zhang Rui-E, Wang Bao-Xiang,
Xian Modern Chemistry Research Institute, Xian, CHINA

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Direkte Kreuzkorrelation zur hochauflösenden PIV-Auswertung von Wirbelstrukturen
Direct cross correlation for high resolution PIV of vortex structures

A. Brock, L. Deimling,
Fraunhofer ICT, Pfinztal, D

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Modellierung und Simulation der Leistungskennndaten, des Abbrandproduktspektrums, der
optimalen Formulierung, der chemischen Stabilität und Kompatibilität, der thermochemischen
Reaktionen und des Alterungsverhaltens in der Produktentwicklung von energetischen
Materialien

*Modelling and simulation of the performance data, of the burning product composition, of the
optimum formulation, of the chemical stability and compatibility, of the thermochemical
reactions, and of the ageing behaviour of energetic materials during their development*

M.A. Bohn,
Fraunhofer ICT, Pfinztal, D

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Relationship between the longest N-N bond lengths and activation energies of low-temperature
thermolysis of nitramines