



The Abdus Salam International Centre for Theoretical Physics



INTERNATIONAL SYMPOSIUM ON THE JAHN-TELLER EFFECT:

NOVEL ASPECTS IN ORBITAL PHYSICS AND VIBRONIC DYNAMICS OF MOLECULES AND CRYSTALS

28 - 31 August 2006

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, is organizing an International Symposium on the Jahn-Teller Effect: Novel Aspects in Orbital Physics and Vibronic Dynamics of Molecules and Crystals, to be held in Trieste from 28 to 31 August 2006.

DIRECTORS:

I. BERSUKER (The University of Texas at Austin, U.S.A.)
N. MANINI (Università di Milano, INFN, Italy)
E.E. VOGEL (Universidad de la Frontera, Temuco, Chile)

LOCAL ORGANIZER:

E. TOSATTI (SISSA/ICTP, Trieste, Italy)

The main goal of this Symposium is to bring together researchers and students interested in the latest achievements in this highly inspirational and rapidly developing trend in physics and chemistry of molecules and crystals that incorporates all the effects of nonadiabatic couplings between electronic states and nuclear dynamics, and to promote further developments and novel applications in the field. This Symposium continues the tradition of the previous XVI Symposium on the Jahn-Teller (JT) effect in Leuven (2002, Belgium) and the International Workshop on the JT effect in Beijing (2004).

Main topics:

Orbital ordering and vibronic coupling in:

- structural phase transitions
- metal-insulator transitions
- transport in organic and inorganic crystals
- superconductivity
- colossal magnetoresistance

Adiabatic potential surfaces (APS) in JT systems:

- conical intersections
- topological phases
- chemical reactivity and reaction mechanisms
- *ab initio* calculations of APS and vibronic energy levels

The JT and pseudo JT effect in:

- molecular geometry and spectra
- impurity centers in crystals
- multimode and multicenter problems
- clusters, nanoparticles, and quantum dots

PRELIMINARY LIST OF INVITED SPEAKERS:

L. CEDERBAUM, Universität Heidelberg, Germany
A. CEULEMANS, Katholieke Universiteit Leuven, Belgium
J. DUNN, University of Nottingham, U.K.
R. ENGLMAN, Soreq NRC, Yavne, Israel
M. FABRIZIO, SISSA - International School for Advanced Studies, Trieste, Italy
V. HIZHNYAKOV, University of Tartu, Estonia
M. KAPLAN, Simmons College, Boston, U.S.A.
T. KATO, Josai University, Sakado, Japan
D. KHOMSKII, Universität zu Köln, Germany
S.I. KLOKISHNER, State University of Moldova, Kishinev, Moldova
H. KÖPPEL, Universität Heidelberg, Germany
S. MAHAPATRA, University of Hyderabad, India
F. MAURI, Université Pierre et Marie Curie, Paris, France
T.A. MILLER, The Ohio State University, Columbus, U.S.A.
K.A. MÜLLER, University of Zürich, Switzerland
D. PASSERONE, Eidgenössische Technische Hochschule, Zürich, Switzerland
V. POLINGER, University of Washington, Seattle, U.S.A.
B.S. TSUKERBLAT, Ben-Gurion University of the Negev, Beer-Sheva, Israel

PARTICIPATION

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the Symposium. As it will be conducted in English, participants should have an adequate working knowledge of this language. Although the main purpose of the Centre is to help research workers from developing countries, through a programme of training activities within a framework of international cooperation, a limited number of students and post-doctoral scientists from developed countries are also welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). Such support is available only for those who attend the entire activity. There is no registration fee.

The **Application Form** is obtainable from the ICTP WWW server: <http://agenda.ictp.it/smr.php?1768> (which will be constantly up-dated) or from the activity Secretariat. It should be completed and returned before **31 March 2006** to:

International Symposium on the Jahn-Teller Effect (smr 1768)
the Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11, 34014 Trieste, Italy.

or

smr1768@ictp.it (please save and send file attachments in RTF format)

Joint participation in adjacent ICTP event: Conference on New States of Stable and Unstable Quantum Matter (14 - 25 August) is suggested and warmly encouraged. Further information is available at <http://agenda.ictp.it/smr.php?1766>

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ICTP Home Page: <http://www.ictp.it/>

CO-SPONSORS:

**Università degli Studi di Milano,
Dipartimento di Fisica - Italy**

**SISSA
International School for Advanced
Studies, Trieste - Italy**

**Millennium Scientific Nucleus
Condensed Matter Physics,
P02-054-F, Chile**

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DEADLINE

for requesting participation:

31 March 2006