**INTERNATIONAL SYMPOSIUM ON DYNAMICAL PROPERTIES OF SOLIDS** 



ČESKÝ KRUMLOV, CZECH REPUBLIC SEPTEMBER 27 – OCTOBER 1, 2005

# **CONFERENCE PROGRAM**

### WELCOME TO ČESKÝ KRUMLOV



According to legend, the name Krumlov is deduced from the German "Krumme Aue", which can be translated as a "crooked meadow". The name comes from the natural trait of the town, especially from the tight crooked meander of the Vltava river. The town was first mentioned in documents dated to 1253, where Krumlov was called Chrumbonowe.

The castle and town were founded in the middle of the 13th century on two meanders of Vltava river that closely follow each other around. The castle itself and its corresponding settlement are situated opposite the town. This configuration of elevations is highlighted by a couple of local

architectural giants, mainly the tower of St. Vitus church and the castle

tower. The lower part of the town is spread out across the lee side of a long southern row of the castle, the second largest castle in Bohemia (after Prague castle).

At present Český Krumlov is becoming more and more the final destination of thousands of visitors from our country and abroad. It is no wonder, as it has been preserved as a medieval architectural historical monument and is nicely located on the meander of the Vltava river. The unrivalled status of the town has led to designation of Český Krumlov as a historical urban reservation as early as 1963. The significance of Český Krumlov as an unusual historical monument was pointed out in 1992 by



the act of the International Association of UNESCO. Český Krumlov was included among the monuments of world importance, those to which exceptional care, attention and support should be indispensably devoted. The unique urban integrity contains more than 300 historical buildings and its atmosphere is absolutely incomparable.

### SYMPOSIUM SITE



#### Hotel Růže Horní Street 154, Český Krumlov (www.hotelruze.cz)

The symposium will be held in the hotel Růže (address: Horní Street 154). This historical building was built in the 16<sup>th</sup> century as a Jesuit Monastery and University. It has preserved the beauty and style of the renaissance, despite recent extensive interior restoring and modernizing works.

### **REGISTRATION & INFORMATION DESK**

**Registration desk** will be open on **Tuesday** evening, **September 27, 2005** from **19:00 till 21:00** and on **Wednesday** morning, **September 28, 2005** from **8:00**. The registration/information desk will be open during the whole conference programme and will help you to solve all matters connected with your stay in Český Krumlov.

#### MEET PEOPLE

The get-together meeting with refreshment will take place on Tuesday evening, September 27, 2005, from 19:30 till 21:00 in the conference building.

### LUNCHES

**Lunches** are included in the conference fee and will be served in the restaurant of the symposium building. All participants will receive lunch vouchers in their conference materials.

### POSTERS

Poster session will be held on Wednesday evening (September 28). Posters can be fixed from 9 am on Wednesday and will be exhibited until Friday afternoon.

The poster boards are 150 cm wide and 120 cm high. Please do not use self-adhesive tapes or Velcro which will not work. Pins will be available on site. Please consult Book of Abstracts, page 7, for number of your poster.

### INSTRUCTIONS FOR SPEAKERS

Please check the schedule and length of your talk in the Symposium program below (last 5 minutes of each talk is reserved for questions).

Facilities available for oral presentations:

- conference nootebook (PC) with Windows XP system
- data projector
- standard overhead projector
- Formats allowed for computer presentations:
  - PDF files
    - PowerPoint files

For your presentation, you can use either your own notebook or the conference one.

#### Very important:

We would like to ask all speakers, in the case they will make a computer presentation, either to send a file with their presentation by e-mail or through our upload form at <a href="http://palata.fzu.cz/dyproso/uploadform.html">http://palata.fzu.cz/dyproso/uploadform.html</a>, or at least to bring it on a CD, USB memory stick or floppy well in advance. It will help us to prevent delays before lectures in case a possible incompatibility problem emerges. In case of any problems please contact Jan Pokorný.

### INTERNET CONNECTION

We are sorry but we were not able to arrange free Internet connection for conference participants during the meeting. In case you need the Internet please use the payed facilities available:

- The Internet terminal in the lobby of the Hotel Růže
- Public Internet cafés in the city, see the map on the last page

### LIST OF PARTICIPANTS

The list of participants with e-mail addresses will be sent to all participants and future DyProSo organizers by e-mail. Please sign the agreement to include your e-mail address in this list (at the registration office).

### LAST MINUTE CHANGES

There are several last minute changes with respect to the information in the Abstracts booklet.

- The speakers' dinner will be held at 19:30 on Thursday
- The presentation of C. Pecharromán will be presented as a talk on Wednesday, 18:10

### SYMPOSIUM PROGRAM – SCHEDULE

#### **TUESDAY, SEPTEMBER 27**

19:00–21:00 Registration

19:30–21:00 Get-together party

#### WEDNESDAY, SEPTEMBER 28

#### Session 1: RELAXORS (chairman: M. D. Fontana)

9:00	S. B. Vakhrushev (St. Petersburg)
	Broad-band relaxational dynamics in relaxor PMN crystals
9:40	S. N. Gvasaliya
	Relaxational mode and phonon-coupling effects across the Burns temperature
	in $PbMg_{1/3}Nb_{2/3}O_3$
10:05	J. Kreisel
	Effect of high pressure on perovskite-type relaxor ferroelectrics
10:35	S. Kamba
	Demonstration of a classical state in a classical former classical

Dynamics of polar clusters in relaxor ferroelectrics

#### 11:00–11:30 Coffee break

#### Session 2: ADVANCES IN TECHNIQUES I. (chairman: J. Petzelt)

11:30 M. H. Lemée-Cailleau Ferroelectric order induced by 100-femtosecond laser pulses: a time-resolved study combining 100-picosecond X-ray diffraction and optical spectroscopy
12:10 L. Mitáš Quantum Monte Carlo methods: new developments and applications to transition metal compounds

13:00-14:00 Lunch

#### Session 3: FROM FILLED NANOPORES TO INTRINSIC DEFECTS (chairman: R. Pick)

14:30	A. Naberezhnov
	Phase transitions in a confined sodium nitrite
14:55	A. San Miguel
	Dynamical properties of group-IV clathrate systems
15:35	M. D. Fontana
	Phonon dynamics of intrinsic and extrinsic defects in LiNbO <sub>3</sub>
16:00-	16:30 Coffee break
	Session 4: ANHARMONIC LATTICE DYNAMICS (chairman: R. Schilling)
16:30	K. Schmalzl
	Approaching anharmonic properties in fluorites
17.10	

- Role of breathers in anomalous decay
- 17:40 L. S. Schulman Structure and time-dependence of quantum breathers
  18:10 C. Pecharromán IR soft modes in ceramic lithium/sodium lanthanum titanate superionic conductors

20:30–21:30 POSTER SESSION

#### THURSDAY, SEPTEMBER 29

#### Session 5: CARBON NANOTUBES (chairman: A. San Miguel)

### 9:00 L. Kavan Spectroelectrochemistry at carbon nanostructures 9:50 J. Maultzsch

### Optical transitions and excitonic effects in single-walled carbon nanotubes

10:35 H. Shiozawa Single wall carbon nanotubes with tuneable electronic properties: engineering of one dimensional molecular nanostructures

11:00-11:30 Coffee break

#### Session 6: SUPERCONDUCTIVITY IN CARBON (chairman: J. Hlinka)

#### 11:30 L. Boeri

11.00	
	Three-Dimensional MgB <sub>2</sub> -type superconductivity in hole-doped diamond
12:10	J. Haruyama
	Superconductivity with $T_c = 12$ K in entirely end-bonded multi-walled carbon nanotubes
12:35	G. Loupias
	Superconductivity of bulk $CaC_6$

13:00-14:00 Lunch

## Session 7: ADVANCES IN TECHNIQUES II. (chairman: M. H. Lemée–Cailleau) 14:30 J. Kulda Studies of self-energies of elementary excitations in solids by neutron three-axis spin-echo spectroscopy 15:10 A. Bosak Phonon density of states probed by inelastic X-ray scattering 15:35 P. Simon Raman scattering and high temperatures

16:00-16:30 Coffee break

	Session 8: HIGH–T <sub>c</sub> SUPERCONDUCTIVITY (J. Kulda)
16:30	Y. Sidis
	Resonant spin excitations in superconducting $YBa_2Cu_3O_{6+x}$ : in-plane geometry and bilayer
	effect
17:10	I. Eremin
	Resonant magnetic excitations in high-T <sub>c</sub> cuprates: influence of orthorhombicity and upward
	dispersion
17:35	S. Borisenko
	Angle-resolved photoemission spectroscopy on high-temperature superconductors: searching
	the pairing boson
18:10	D. Reznik
	Dynamic charge order and phonon anomalies in the cuprates
40.00	

19:30 SPEAKERS' DINNER

FRIDAY, SEPTEMBER 30					
	Session 9: QUANTUM DYNAMICS (chairman: J. van den Brink)				
9:00	R. Schilling				
9:45	<i>Quantum dynamics of molecular magnets: spin-tunneling and the Landau-Zener effect</i> F. Fillaux				
3.43	Macroscopic quantum tunnelling of protons in the KHCO <sub>3</sub> crystal				
10:15	N. Gidopoulos				
	Non-adiabatic electronic excitation in neutron-Compton scattering				
11:00–	11:30 Coffee break				
	Session 10: ORBITAL PHYSICS (chairman: A. Ivanov)				
11:30	D. Khomskii				
	Insulator-metal transitions and orbitally-driven superstructures in correlated systems				
12:00					
12:30	Orbital order and dynamics in $RB_2C_2$ C. Ulrich				
12.00	Spin and orbital correlations in transition metal oxides (titanates and vanadates)				
13:00–	14:00 Lunch				
	Session 11: MANGANITES (chairman: J. Kreisel)				
14:30	J. van den Brink				
	Magnetism versus ferroelectricity; a new route to combine both				
15:10	T. G. Perring				
	Magnetic excitations in manganites				
16:00–	16:30 Coffee break				
	Session 12: PHASE TRANSITIONS (chairman: R. Currat)				
16:30	T. Kolodiazhnyi				
	Spin gap opening in chemically doped n-type $BaTiO_3$				
17:00	Ph. Pruzan				
	Vibrational dynamics and local structures in KNbO <sub>3</sub> , Investigation up to 30 GPa and from 20				
17:25	<i>to 500 K</i> A. Tröster				
17.25	On the free energy of the $\phi^4$ model				
17:55	C. Ecolivet				
	New features in aperiodic molecular nanoporous crystals				

#### SATURDAY, OCTOBER 1

	Session 13: QUASIPERIODIC CRYSTALS (chairman: J. M. Perez-Mato)	
9:00	R. Currat	
	Phasons in quasiperiodic structures	
9:45	M. de Boissieu	
	Dynamics of phason modes in the i-AlPdMn quasicrystal	
10:15	B. Murphy	
	Grazing incidence inelastic X-ray scattering study of CDW systems	
10:55	(Final announcements)	
11:00-	11:30 Coffee break	
	Session 1/ PHASE TRANSITIONS II (chairman: I. Gregora)	

	Session 14: PHASE TRANSITIONS II. (chairman: I. Gregora)
11:30	W. Schranz
	Ordering and dynamics near the phase transitions of lawsonite
12:15	Closing
12:30-	13:30 Lunch

14:00 Post-conference excursion to Rožmberk and Vyšší Brod

### SPEAKER'S DINNER

Speaker's dinner will be held in a stylish restaurant & museum on the Vltava river bank, the **Krumlov Mill** (Krumlovský mlýn, <u>http://www.krumlovskymlyn.cz/</u>). The dinner is offered to all speakers; the price for other participants including accompanying persons is 600 CZK and should be payed upon arrival at the registration desk. Please let us know any special requests you may have (e.g. vegetarian food) in advance.

### **POST-CONFERENCE SIGHTSEEING TOUR**

There will be a post-conference guided tour (in English, 3-4 hours) to **Rožmberk nad Vltavou and Cistercian Abbey in Vyšší Brod** on Saturday, October 1<sup>st</sup> in the afternoon. You can still register for the tour, the price is 900 CZK.

Rožmberk Castle was founded in 1250 in place where an important merchants' path led. Originally it had a



German name "Rosenberg". Under the reign of Václav I. Vok and his closest descendants it was the seat of the ruler and the centre of the estate. In spite of its strategic location, the castle had ben conquered for several times. In 1551 the family estate was handed over to a sixteen-year old Vilém of Rožmberk. Intensive construction works were realized at that time.

**The Cistercian Abbey in Vyšší Brod** (known in Latin as Altum Vadum) was founded on 1 June 1259 by Vok of Rožmberk. According to the legend it was founded as a gratitude to Virgin Mary as P. Vok had been

miraculously rescued from the wild waters of the swollen Vltava river when he had prayed to her while drowning. At present the Cistercian monks try to reset the original character of the monastery which they have got back after forty years, and to make it the regional spiritual and cultural centre, still guarding the memory of the famous Rožmberk family of Bohemia who died out in 1611. After the Rožmberks, the monastery was under the protection of the Eggenbergs, and, from 1719, the Shwarzenbergs. Between 1950 and 1990, the monastery was used as a museum, run by the state, and in 1991 it was given back to the Cistercian order.

**Preliminary timetable:** 14:00 – departure, 15:15 – visit of the Rožmberk Castle, 17:30 – visit of the monastery in Vyšší Brod, 19:00 – return

### PAYMENTS

All registered participants will receive an e-mail message with a document which indicates their financial obligations to the conference organizers. All financial problems (overpayments, payments due) have to be settled at the registration desk after arrival.

Payment is possible in cash, i.e. CZK, USD, EUR, in Travellers' Cheques or personal cheques.

A written Confirmation of Payment can be arranged on request by the organizers.

On request we are ready to make you a copy of the corresponding bank statement.

### **REVIEW OF THE CONFERENCES FEES**

	before June 30, 2005	after June 30, 2005
Regular fee	12 000 CZK	15 000 CZK
Member of EPS National Society	11 400 CZK	15 000 CZK
Individual ordinary member of EPS	10 800 CZK	15 000 CZK
Student (limited offer)	6 000 CZK	
Accompanying persons fee	3 000 CZK	3 000 CZK

### HOW TO REACH ČESKÝ KRUMLOV

Český Krumlov is about 90 km from Linz and 170 km from Prague. From Prague, it can be easily reached by car, train or bus.

You can find recommended connections and more detailed travel information at <u>http://palata.fzu.cz/dyproso/index.php?item=travel</u>.

#### By bus

Direct **buses** to Český Krumlov depart from the Prague Central Bus Station Florenc (Praha, UAN Florenc), from the Bus Terminal "Na Knížecí" or from the Bus Terminal Roztyly. Ticket price is approx. 200 CZK. The time tables can be found at <u>http://www.idos.cz</u> (in Czech, English and German).

#### How to reach the Central Bus Terminal Florenc from the airport

Take the bus No.100 (the bus stop is in front of the airport building) to the terminus "Zličín", change to the yellow underground line B (Metro) and get off at the station called "Florenc" (approx. 45 min).

#### By train

Trains to Český Krumlov depart from Prague Main Railway Station (Praha, Hlavní nádraží). You have to change in České Budějovice. The approximate price of a train ticket in II class is approx. 250 CZK.

#### How to reach the railway station Praha – Hlavní nádraží from the airport

Take the bus No.100 to the terminus "Zličín", then take the yellow underground line B (Metro) to the station "Florenc", change to the red line C and get off at the station called "Hlavní nádraží" (direction "Háje"), or:

take bus No.119 and go to the terminus "Dejvická". Change to the green underground line A, at the station "Muzeum" change to the red line C and get off at the station called "Hlavní nádraží" (direction "Ládví"). Both ways take about 45 minutes.

#### By car

The road distance between Prague and Český Krumlov is approximately 170 km. You should leave Prague on road No.R4 in the direction to Strakonice (south) or on motorway D1 in the direction to Tábor (east). In both cases you should pass through České Budějovice.

#### By taxi

In case of need, Český Krumlov can be reached also by taxi, although the fares are recently not very cheap (from the Prague Airport, about 4200-4700 CZK). It is always recommended to order a taxi by phone. You may try a toll-free call 800 118 294 to Profi Taxi (english speaking; the boarding place is at the airport entrance door F), or a payed call (+420) 233 322 333 to <u>AAA Radiotaxi</u>. The phone box at the airport is located at the entrance door to Departures.

### **DYPROSO DIRECT BUS**

There will be a free conference bus Prague Airport -> Český Krumlov, leaving from the Prague airport on **September 27, 16:00**. We keep reservation for those who have asked for it through the registration form. Nevertheless, we request you **to confirm your reservation** by sending your scheduled arrival to Ruzyne Airport (it should be around 15:00 or earlier) and/or your flight number to our colleague Milan Berta <u>berta@fzu.cz</u> who will be waiting for you at the airport together with the bus company agent. Following your requests, we are planning also two (smaller!) return buses. Interested travellers can apply to <u>berta@fzu.cz</u> with their departure details (B-BUS will arrive at Ruzyne Airport around 17:30 on Saturday October 1, and C-BUS around 12:00 on Sunday October 2).

### ACCOMMODATION

Participants having their accommodation arranged by us will not need an accommodation voucher, their name is known in the hotel reception. For such an accommodation (incl. breakfast) you should pay directly to the lcaris Ltd., for other hotel services at the hotel reception.

Name	Address	Phone	Web page
Eva	Spojovací 187	+420 775 945 501	www.evapension.cz
Danny	Latrán 72	+420 380 712 710	www.pensiondanny.cz
Lobo	Latrán 73	+420 380 713 153	www.pensionlobo.cz
Na louži	Kájovská 66	+420 380 711 280	www.nalouzi.cz
Růže	Horní 154	+420 380 772 100	www.hotelruze.cz
U města Vídně	Latrán 77	+420 380 720 111	www.hmv.cz
U Václava	Nové Město 25	+420 380 715 094	www.uvaclava.cz
Zlatý Anděl	Nám. Svornosti 11	+420 380 712 310	www.hotelzlatyandel.cz

### CONTACTS

OFFICIAL SYMPOSIUM WEB PAGE http://palata.fzu.cz/dyproso/

> E-mail: dyproso@fzu.cz Fax: +420 286 890 415

#### SCIENTIFIC COMMUNICATION



Jirka Hlinka Institute of Physics AS CR Na Slovance 2 182 21 Praha 8 Czech Republic E-mail: hlinka@fzu.cz

#### **REGISTRATION, ACCOMMODATION, TOURS**



ICARIS Ltd., Conference Management Nám. Dr. Holého 8 180 00 Praha 8 – Libeň Czech Republic Phone: +420 284 827 157 Fax: +420 266 312 113 E-mail: icaris@icaris.cz

### MAP OF ČESKÝ KRUMLOV





