IBWS2019 Welcome

R. Hudec for SOC&LOC

16th IBWS2019 Karlovy Vary, May 20-24, 2019
(11th IBWS in Karlovy Vary)
Why IBWS?

• IBWS INTEGRAL BART Workshop
• INTEGRAL - ESA HE satellite. Our first ESA satellite we were involved.
• BART Burst Alert Robotic Telescope. Our 1st RT
• There was synergy between INTEGRAL and BART.
The INTEGRAL Mission

Gamma-ray observatory with concurrent X-ray and optical monitoring.

INTEGRAL is the ESA Science Programme’s mission launched on October 17, 2002.

ESA’s 2nd γ-ray mission (COS-B, 1975), will join XMM-Newton in orbit.

ESA led mission in collaboration with Russia, United States, Czech Rep. and Poland

Czech participation based on Agreement CR – ESA (from 2009 full ESA member)

Lifetime of at least 5 years.

Highly eccentric 72 hour orbit.

Observing programme includes 65-75% open time.
The complex INTEGRAL instruments were built by large collaborations...

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Principal Investigators</th>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBIS</td>
<td>P. Ubertini (I), F. Lebrun (F), G. Di Cocco (I)</td>
<td>Italy, France, Norway, Germany, Spain, USA, Poland, UK</td>
</tr>
<tr>
<td>SPI</td>
<td>J.-P. Roques (F), V. Schönfelder (D)</td>
<td>France, Germany, Italy, Spain, Belgium, UK, USA</td>
</tr>
<tr>
<td>JEM-X</td>
<td>N. Lund (Dk)</td>
<td>Denmark, Finland, Spain, Italy, USA, Sweden, UK, Poland, Russia</td>
</tr>
<tr>
<td>OMC</td>
<td>M. Mas-Hesse (ES)</td>
<td>Spain, Ireland, Belgium, UK, <strong>Czech Republic</strong></td>
</tr>
<tr>
<td>Science Data Centre</td>
<td>T. Courvoisier (CH)</td>
<td>Switzerland, France, Germany, Italy, Denmark, UK, Belgium, USA, <strong>Czech Republic</strong>, Poland</td>
</tr>
</tbody>
</table>
Optical Monitoring Camera (OMC)

- 500 – 600 nm wavelength range
- CCD (2048 x 1024 pixels)
- 5 x 5 degree FOV, 20” imaging
- Optical monitoring of high-energy sources
- 17 kg
- Sensitivity: 18.2 mag in 1000 s
- Czech participation: onboard software, ISOC and ISDC software, simulators, test camera, tests, science
OMC Test Device (providing real test images)

BART Wide Field CCD camera, FOV 6 x 7 degrees, lim mag 15.5

identical with INTEGRAL OMC Test Device (18 arcsec/pixel)

BART web page:
http://lascaux.asu.cas.cz

.. and OMC simulator:

OMC simulator: http://altamira.asu.cas.cz
Small robotic telescopes for high energy astrophysics in Ondřejov: BART and D50

Based on sophisticated RTS2 operating software by Petr Kubánek: run on 10 telescopes (e.g. WATCHER, BOOTES, FRAM, BART etc.)

Fast observations of GRBs & automated long-term dense monitoring of HE sources
Support for ESA satellites INTEGRAL, Gaia, etc.
First OMC image from space IBWS2019
IBWS Workshops

• Was original idea of my former students, especially Martin Jelinek and Martin Topinka.
• Both of them will attend this workshop
Our students at the 1st INTEGRAL Progress Meeting, Senohraby, October 2002
Hudec, Hrudková, Šmída, Hroch, Polcar, Bašta, Topinka, Jelínek, Štrobl, Stoklasová, Nekola, Kubánek
2nd INTEGRAL&BART Progress Meeting, Kostelní Střímelice, Oct 2003
IBWS2009 Karlovy Vary March 2009: 1st IBWS held in Karlovy Vary, 1st IBWS with wide international participation – regional workshop
IBWS2010 Karlovy Vary April 2010
IBWS2016 Downtown visit
IBWS2018 Chýše visit
IBWS Today

• Regional workshop with dominant Czech and German participation, this is the 11th IBWS in Karlovy Vary
• More recent and future satellite projects with emphasis on picosats
• Still: Participation of young scholars/Students
IBWS2010 Chyse castle-brewery visit
Moser Glass
2011
Logistics I

• All lunches and all dinners are included in the conference fee. Extra tickets available at LOC.

• All lunches served in the nearby cafeteria – with coupons in your registration package. Limit is 150 Kc if you take more they will ask you to pay the difference. But 150 Kc is enough for soup or salad, main course and one drink.

• NOTE if you take more than 150 Kc you need to pay for the difference, in cash, Czech crowns. You can easily get some Czech crowns in the ATM machine just around the corner at the conference venue
Logistics II

• Dinners 21.5. and 23.5. served in hotel U Draka at 7 p.m. on 21th and 6.30 p.m. on 23th.

• Two soft drinks or beers or wines are included for dinner, higher alcohol extra. Beer can be either small (0.3 liter, “male”) or large (0.5 liter, “velke”)

• Becherovka liquer in the conference room is donation by the Director of Karlovy Vary Observatory. Enjoy...
Logistics III

- Wednesday afternoon evening social trip and dinner
- Free time downtown in between
- Easy bus connection to the city center from hotels and from conference centre
- Please try to avoid frequent use of new plastic cups for drinks, for ecological reasons
Wednesday Social Event

- 14.45 meeting in the front of the conference building
- 15.00 departure by bus to Teplá
- 16.45-18.00 Monastery guided visit
- 18.00 meeting with Monastery abbot and group photo (TBC)
- 22.30 sharp bus departure back to Karlovy Vary
- 23.15 arrival in Karlovy Vary
Teplá (Tepl) Monastery founded in 1193
Monastery Library
Teplá Monastery Hotel and Restaurant
Proceedings

- Will be published in Astronomonomische Nachrichten
- Strict deadline see info on the web
- All info at the conference web
Organizers

- Astronomical Institute, Academy of Sciences of the Czech Republic
- Czech Technical University in Prague
- Karlovy Vary Observatory
- Dr Remeis Observatory Bamberg
- University Wurzburg
The main local organizers

- Veronika Maršíková LOC
- Martin Urban LOC
- Ondřej Nentvich LOC
- René Hudec SOC, LOC
- Miroslav Spurný Karlovy Vary Observatory
- Jaroslav Maxa Karlovy Vary Observatory
Enjoy the workshop ..... and Karlovy Vary – Karlsbad - Carlsbad
The End