



Thorsten Döhning and Rene Hudec

JEUMICO: Joint European Mirror Competence



Bavarian-Czech cooperation on X-ray optics

Proposal regarding the Joint Call of the Bavarian State Ministry of Education, Science and the Arts and the Ministry of Education, Youth and Sports of the Czech Republic for joint projects 2016-2017

Involved partner institutions for JEUMICO

Principle Investigator in Bavaria (HAB)

Prof. Dr. Thorsten Döhning

Aschaffenburg University of Applied Sciences

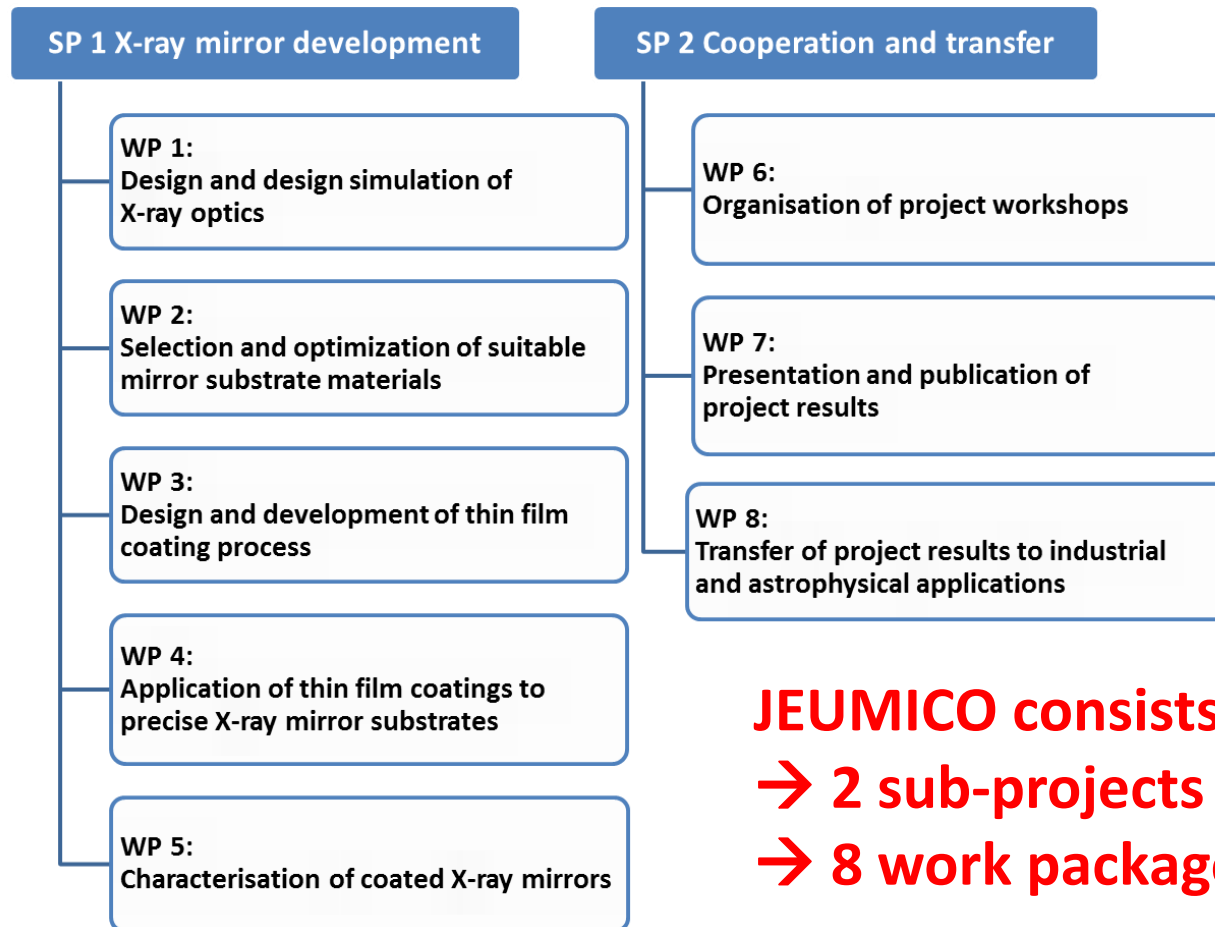
Principle Investigator in Czech (ČVUT)

Assoc. Prof. Dr. René Hudec

Czech Technical University in Prague



JEUMICO work breakdown structure



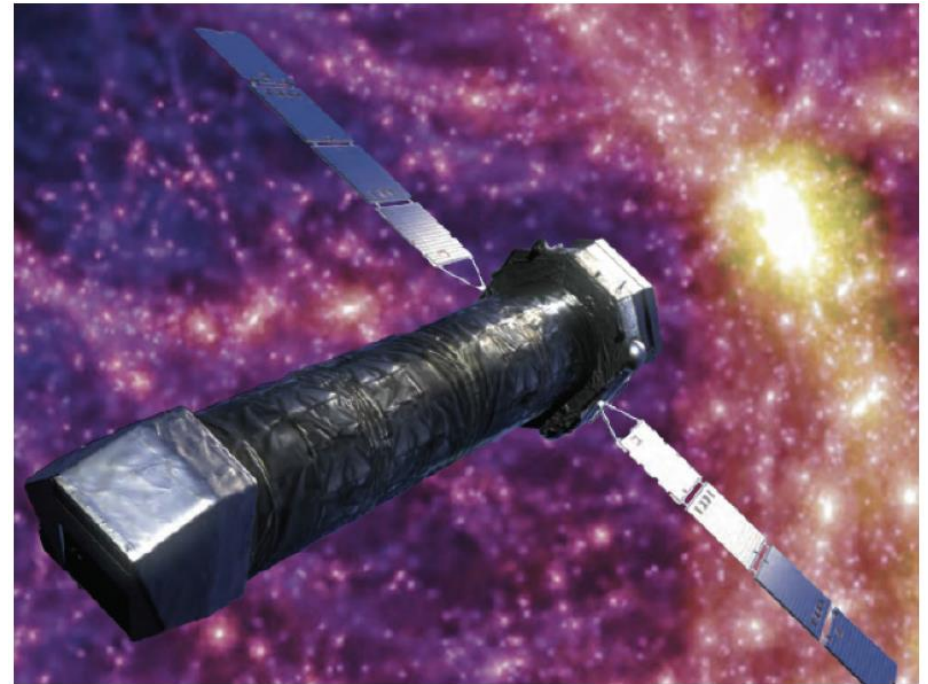
JEUMICO consists of:
→ 2 sub-projects
→ 8 work packages

Technical background

Next generation

X-ray observatories require:

- apertures of several meters
- large effective areas
- good angular resolution
- stringent mass budgets



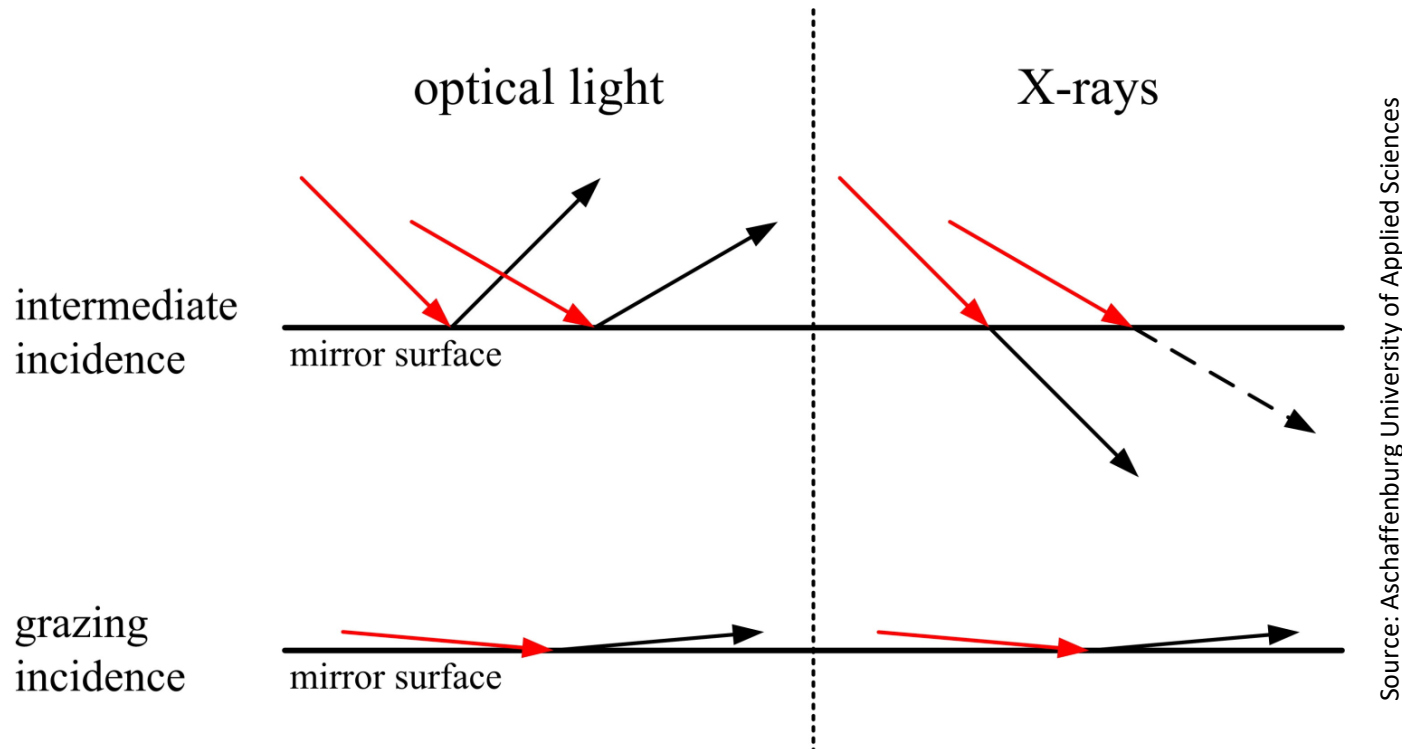
Source: www.cosmos.esa.int

Previously used mirror technologies are not able to fulfil the challenging requirements of future X-ray telescopes

→ development of new technologies for X-ray mirrors needed

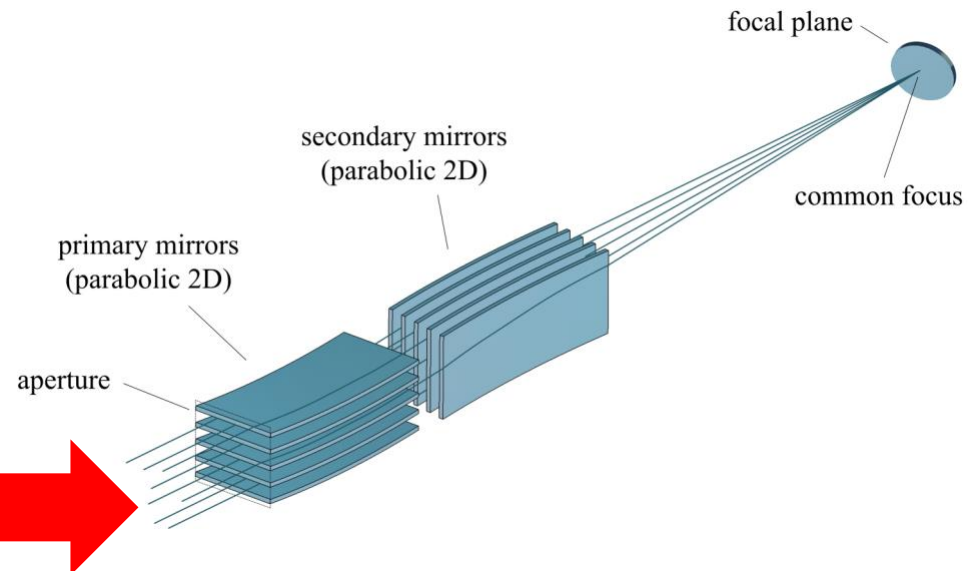
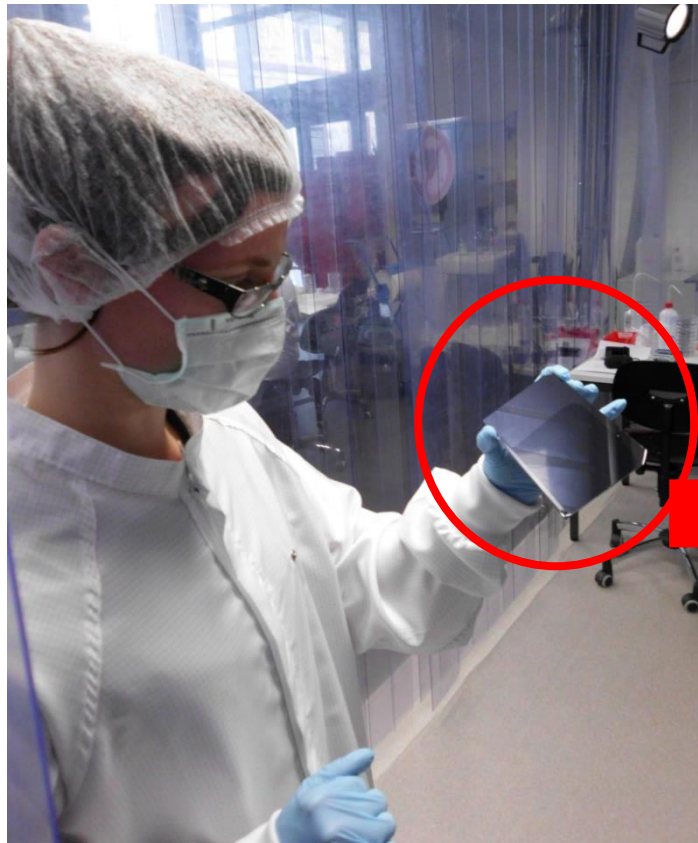


Design principle of X-ray mirrors



Different reflection behavior for optical light and for X-rays
→ grazing incidence X-ray mirror design needed

X-ray telescope made from coated mirror segments



**Iridium coated X-ray mirrors
have been jointly developed
within the JEUMICO project**

Source: Aschaffenburg University of Applied Sciences

Scientific goal

Improve optics for future space-based X-ray telescopes



Source: commons.wikimedia.org

Mosaic of Galactic Center on X-rays

- 400 by 900 light-year mosaic of several images of central region of Milky Way galaxy
- Hundreds of white dwarfs, neutron stars & black holes bathed in fog of multimillion-degree gas

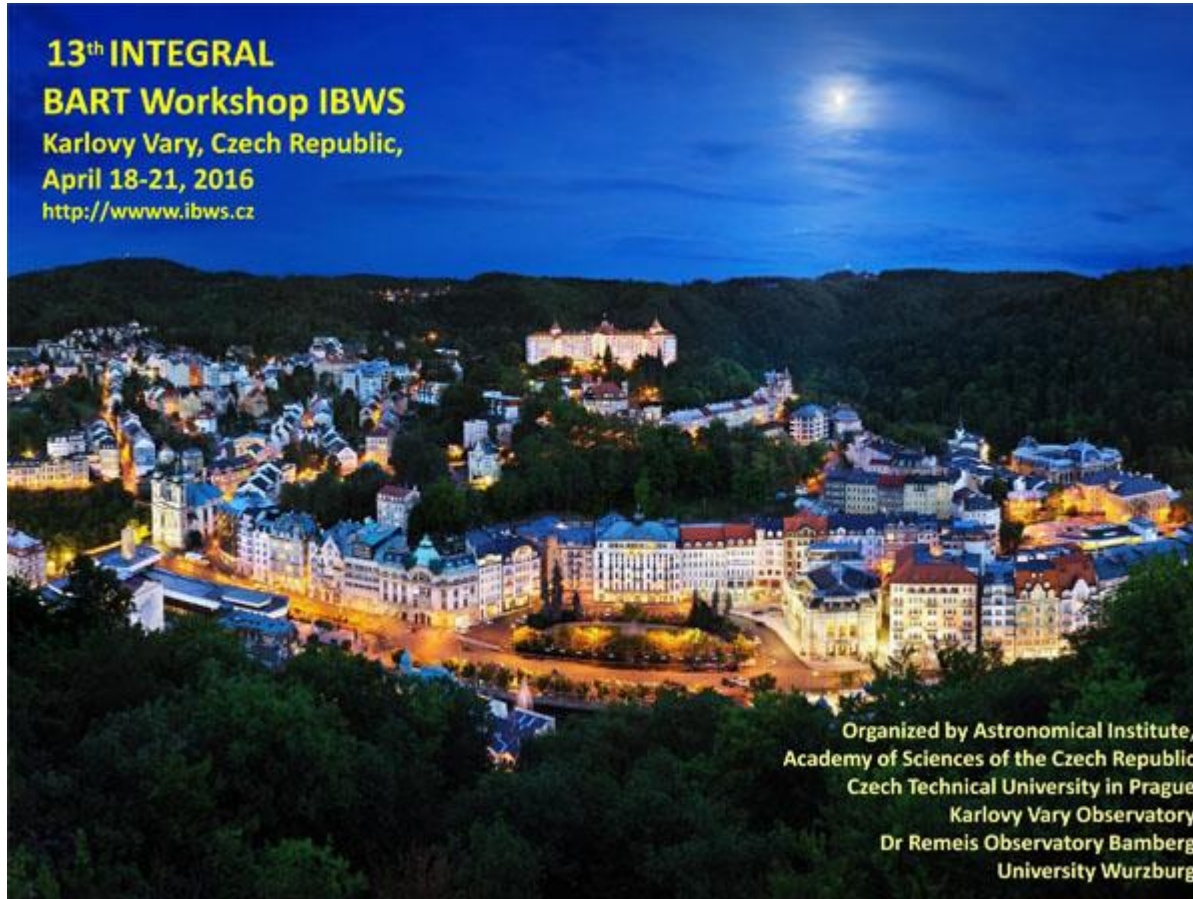
Also important: JEUMICO PR-measures





13th INTEGRAL/BART Workshop in Karlovy Vary 2016

**13th INTEGRAL
BART Workshop IBWS**
Karlovy Vary, Czech Republic,
April 18-21, 2016
<http://www.ibws.cz>



Organized by Astronomical Institute,
Academy of Sciences of the Czech Republic
Czech Technical University in Prague
Karlovy Vary Observatory
Dr Remels Observatory Bamberg
University Wurzburg

Sponsored by:



**Next IBWS workshop in
May 2017**



9th International Workshop on Astronomical X-Ray Optics in Prague, December 5 - 8, 2016

*IX. International Workshop
on Astronomical X-Ray
Optics 2016*

*Villa Lanna, Prague, Czech Republic
December 5 – 8, 2016*



The Workshop is organized by Astronomical Institute
of the Academy of Sciences of the Czech Republic,
Czech Technical University in Prague and
Ministry of Transport
<http://axro.cz>

Sponsored by:



**Next AXRO workshop in
December 2017**

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The JEUMICO team thanks for your attention !



Source: Aschaffenburg University of Applied Sciences

Thank you for attention !

**Vielen Dank für Ihre
Aufmerksamkeit !**

Děkuji za pozornost !

