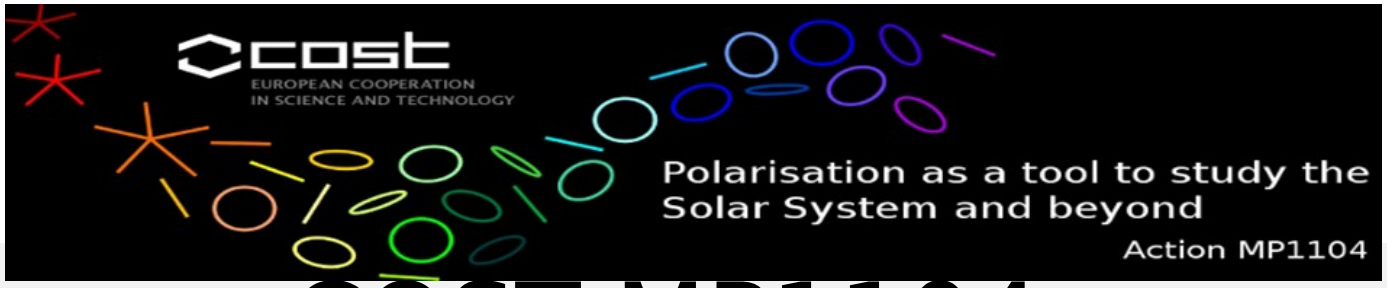


COST MP1104 : POLARISATION AS A TOOL TO STUDY THE SOLAR SYSTEM AND BEYOND

Hervé Lamy

Chairman

Belgian Institute for Space Aeronomy, Brussels, Belgium

9th SCSLSA Meeting, Banja Koviljaca, Serbia, 16 May 2013

cost

BIRA·IASB aeronomie·be

What is a COST Action?

- COST (European Cooperation in Science and Technology) is one of the longest-running European frameworks supporting cooperation among scientists and researchers across Europe

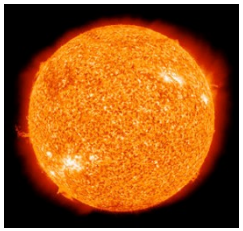
- COST does not fund science. Funding must come from third parties (national or international)

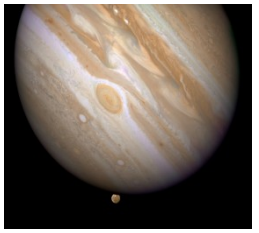
- COST promotes networking between fragmented communities

- Main tools : meetings/workshops, STSM (scientific missions), schools

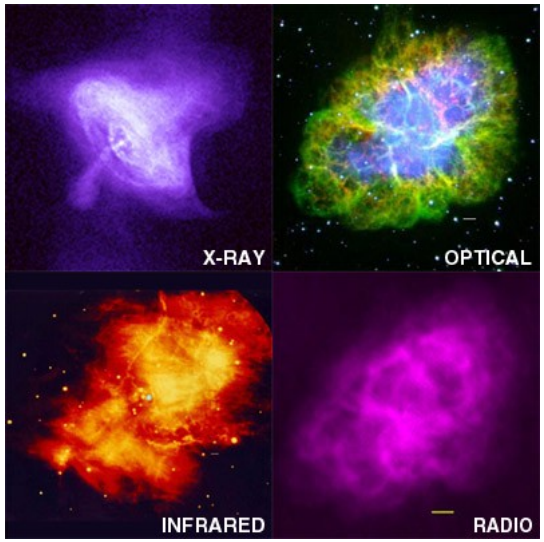
Why do we need a COST action?

1) Lack of interactions

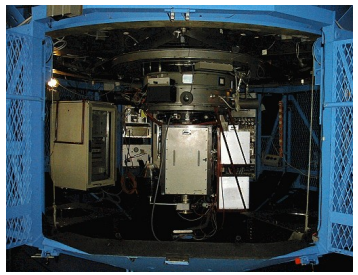




- Not enough cooperation between polarimetrists working on different objects
- Not enough cooperation between groups observing at different wavelengths
- Not enough cooperation between theoreticians, observers, instrumentalists and experimentalists



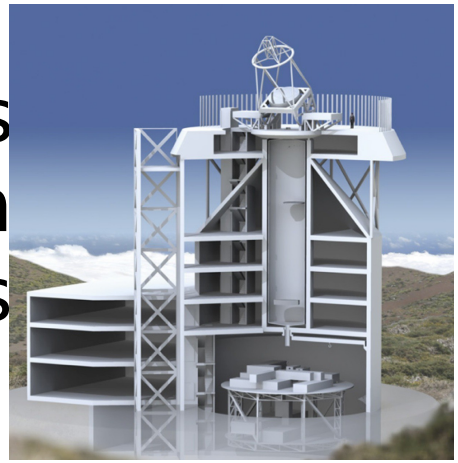
$$
\begin{aligned}
I(\omega) &= k\left[\langle \mathcal{E}_x(\omega)^* \mathcal{E}_x(\omega)\rangle + \langle \mathcal{E}_y(\omega)^* \mathcal{E}_y(\omega)\rangle\right] \\
Q(\omega) &= k\left[\langle \mathcal{E}_x(\omega)^* \mathcal{E}_x(\omega)\rangle - \langle \mathcal{E}_y(\omega)^* \mathcal{E}_y(\omega)\rangle\right] \\
U(\omega) &= k\left[\langle \mathcal{E}_x(\omega)^* \mathcal{E}_y(\omega)\rangle + \langle \mathcal{E}_y(\omega)^* \mathcal{E}_x(\omega)\rangle\right] \\
V(\omega) &= \mathrm{i}k\left[\langle \mathcal{E}_x(\omega)^* \mathcal{E}_y(\omega)\rangle - \langle \mathcal{E}_y(\omega)^* \mathcal{E}_x(\omega)\rangle\right]
\end{aligned}
$$

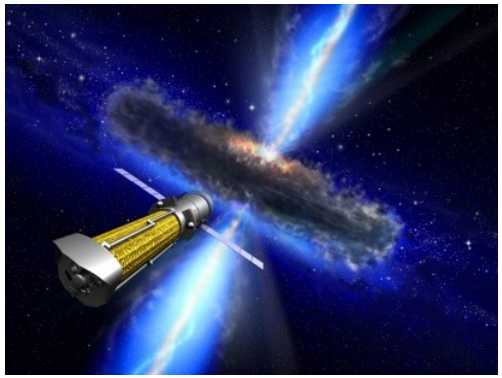


Why do we need a COST Action?

2) Bypass the feeling that polarimetry is a complicated topic

3) Need more spectropolarimeters on ground-based an space observatories





INDUSTRIAL PARTNERSHIP

Main objectives of this COST Action

- Promote polarisation among scientific community. Specific attention given to Early Stage Researchers.

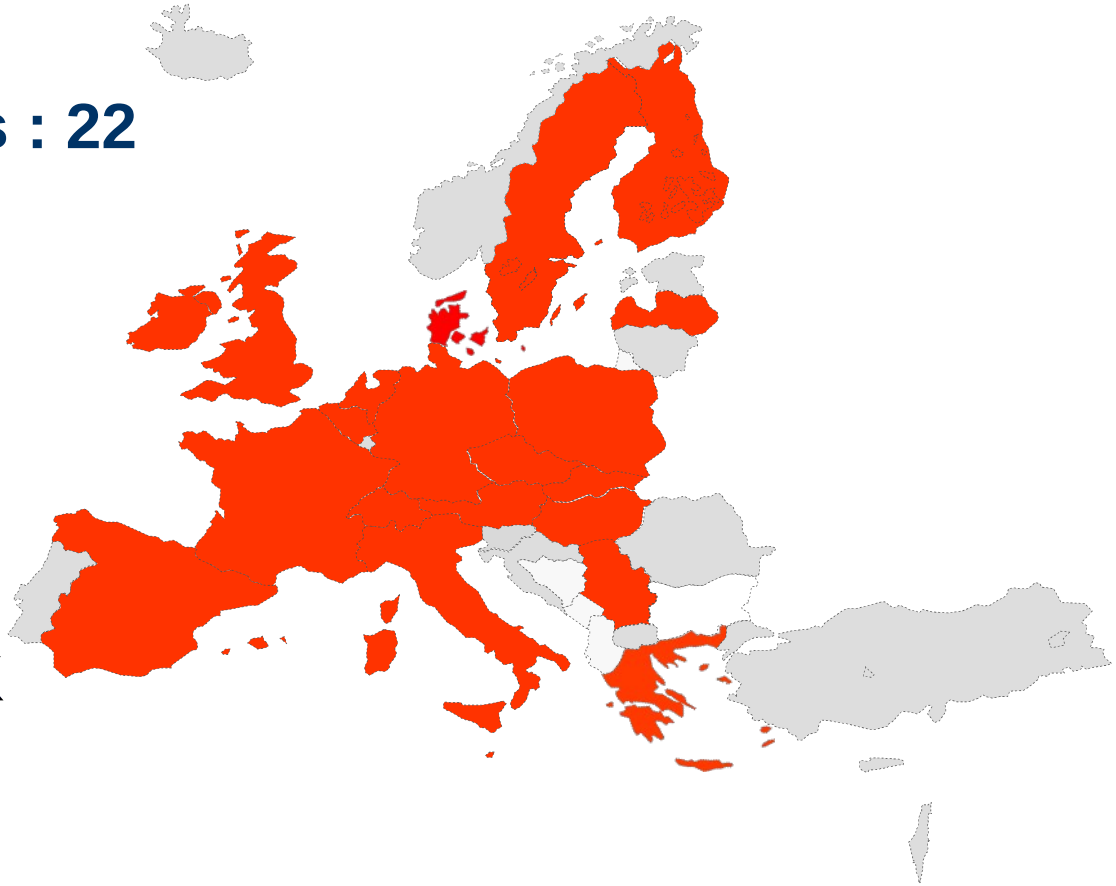
- Make recommendations for ESA / ESO / National Space Agencies / Policy-makers to add spectro-polarimeters to future ground-based facilities and space missions.

- Foster collaborations between various communities, as well as multi-wavelength and cross-disciplinary activities.

Participating countries MP1104

Current Parties : 22

AS, BE, BG,
CH, CZ, DE,
DK, ES, FI, FR,
GR, HU, IE, IT,
LV, MT, NL, PL,
RS, SE, SK, UK



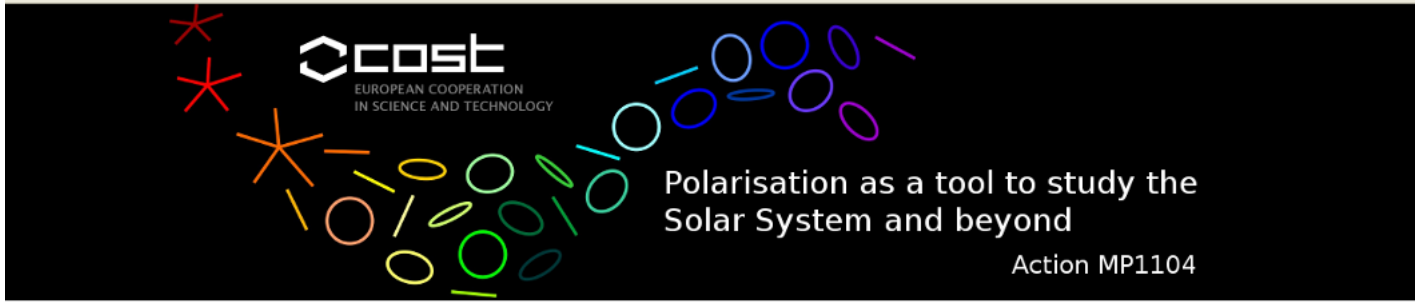
How can you join?

- If you are member of a participating country, just send an e-mail to herve.lamy@aeronomie.be and register on the website (see below). Nationality does not count. Only the location of your institute

- If you are member of a COST country that does not yet participate to our network (in grey on the map), send an e-mail to herve.lamy@aeronomie.be to have information about the procedure how to join

- If you work from a non-COST country, there is a possibility to join as well but it works then with individual institutes and not countries. Procedure is not too difficult but can take a few months as it needs approval from COST.

Our website www.polarisation.eu



Main Menu

- Home
- Working groups
- Hot news
- Outreach
- Links
- STSM
- Meetings
- Participating countries
- FAQ
- Structure of the Action

Login

Username

Password

Remember me

Login

Forgot login?
Register

Home

Polarization of light is a key observable to access essential information that lies encoded in the electromagnetic radiation reaching us from astronomical objects. Polarimetry is a powerful observational tool that augments and complements the capabilities of imaging, photometry and spectroscopy in many fields of planetology and astrophysics.

In most research fields, notwithstanding some outstanding results, polarimetry is still too often overlooked. The action will aim at promoting polarization as an invaluable tool to obtain a wealth of information about astrophysical bodies in our Solar System and beyond. With the benefit of the COST legitimacy, the Actionwill recommend to the European Space Agency, the European Southern Observatory, national space agencies, European industry and policy makers the development and addition of polarimeters in future ground-based observatories and space missions.

The current state of European polarization research faces a lack of interaction between communities working on different objects and/or in different wavelength domains. Under the COST umbrella, the Action will set up the first network of polarization experts in many disciplines and over a wide range of the electromagnetic spectrum, foster multi-wavelength and cross-disciplinary collaborations, and make Europe the world leader in all fields of polarimetric science.

Site hosted by BIRA-IASB