

# FLOW

*the french LOFAR consortium*

M. Tagger, P. Zarika + 30 participants

# time line

- long interest in France for LOFAR
- P. Zarka -> already 'planets and exoplanets'
- difficult to introduce among many other national priorities...
- march 2006: Meudon workshop, > 30 participants, positive signals
- -> FLOW consortium, science case and proposal to funding agencies: a LOFAR station in Nançay, join the LOFAR collaboration
- so far so good...

# science

- very strong interest in most topics addressed by LOFAR: EOR, galaxies and clusters, X-ray binaries and AGN, young stars, planets and exoplanets, Sun, atmospheric phenomena (sprites, elves...)
- excellent complementarity with existing or planned instruments: XMM, HESS, Planck, GLAST, Simbol-X, ECLAIRs, Taranis...
- -> minority of radio-astronomers, many specialists of other wavelengths attracted by the prospects of LOFAR
- some interest (to be explored...) in “other” sciences

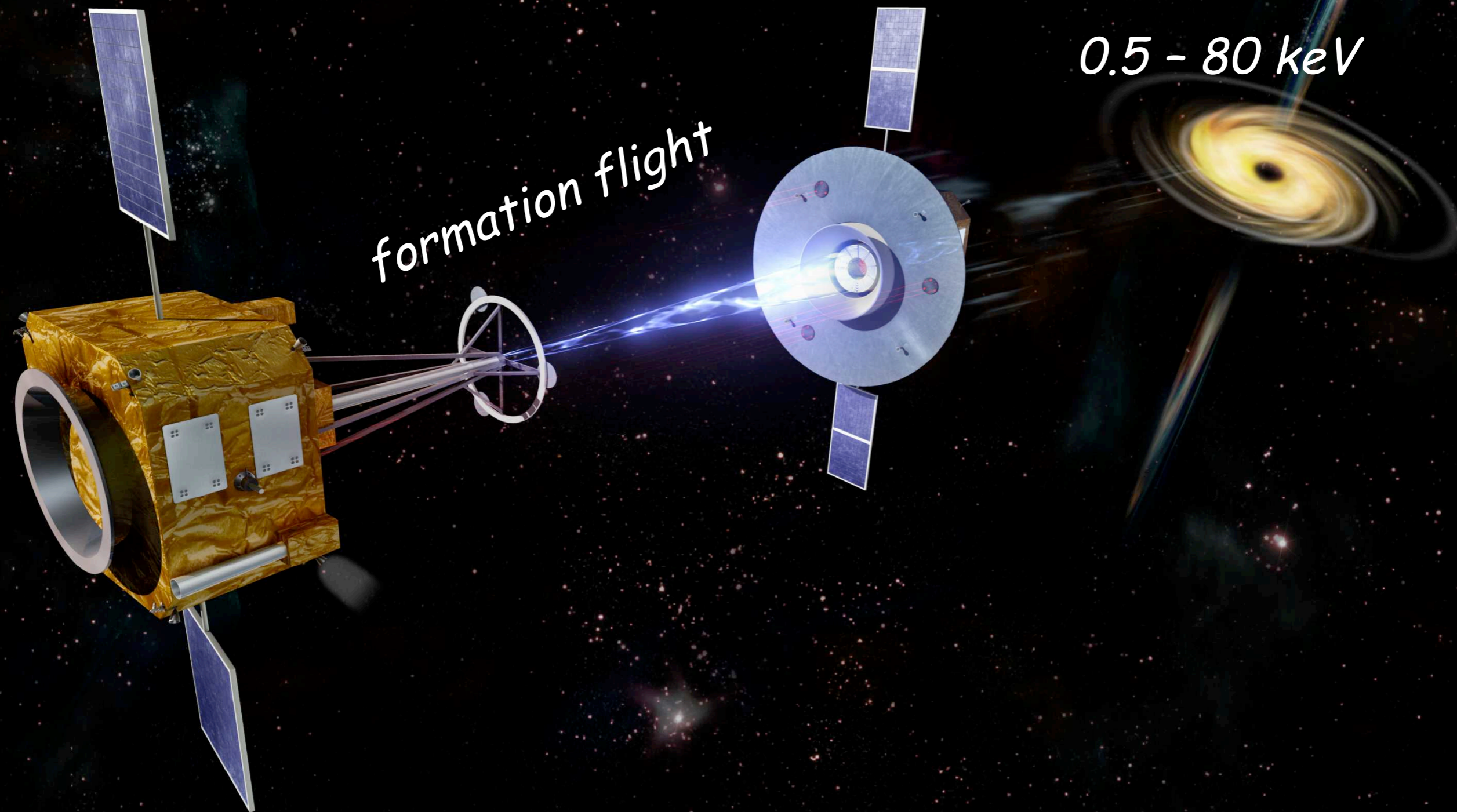


# Symbol-X

a new generation hard X-ray telescope

0.5 - 80 keV

formation flight



# next step: a "super" station?

LOFAR back end + 8 times more antennae -> small second VC

- in quiet ionospheric periods:
  - additional long baselines with high weight (sensitivity) in IFM  
(if super-station inserted in LOFAR array)
  - high angular resolution on weak sources
- in perturbed ionospheric periods:
  - post-detection correlation(intensity interferometry)  
in Tied Array & Incoherent Integration modes
  - -> decorrelation of ionospheric effects and of local RFI  
(more advantageous at low frequencies)
  - -> better sensitivity for detection weak / transient sources
- independent of ionosphere
  - - increases the capabilities of RSMM, TAM, IIM

# LOFAR super-station

- original instrumental development
- local use possible (when not used by LOFAR),  
local data center, training, etc.
- LF only ?
- modest additional cost / standard station ?
- interest of European participants ?
- feasibility study in Nançay
- funding request for a prototype possible in march 2008
- need for a specific science case:  
-> European/International contributions ?