



Concluding remarks

- All talks have highlighted the scientific value of multi-wavelength X-ray surveys
- High energy surveys are key tools for studying a wide range of science cases;
 - various species of AGN,
 - clusters of galaxies,
 - neutron stars (Fermi),
 - active stars,
 - accreting binaries, etc...
- Both with the aim of studying global population properties and to search for outliers.



- Cross-identification over a wide range of wavelength remains difficult in many cases.
- This is recognized as a major challenge for exploiting the existing and future all-sky and deep surveys.
- Clear need expressed for probabilities of associations
- Several methods already exist essentially based on a two by two catalogues approach and priors on SEDs
- In this respect, ARCHES xmatch tool is so far unique in being public, in providing a purely positional approach (with elliptical errors) and working simultaneously on several catalogues considering all association cases.
- However, for most applications, the xmatch tool is only the first step. Constraints on SEDs need to be used as well.



- Identifying and studying clusters of galaxies in X-rays, and optical seems to be a major industry nowadays and a key tool for cosmology.
- The ARCHES Integrated Cluster Finder is one of the most advanced tool using catalogue optical and near infrared data.
- Importantly, the ICF will be a public tool once the corresponding paper is accepted



- Criticisms and space for improvement
 - Multi-catalogue Xmatching for SED is an intrinsically complex problem with a geometrically increasing complexity with the number of catalogues
 - ARCHES has to investigate ways to make both parameter input and output layout more user-friendly
 - Need to improve documentation and tool capabilities (eg automatic catalogues merged footprint calculation, bg densities, bright stars excision, etc..) to avoid misuse.
 - Provide documentation on the goals and content of the 3XMMe catalogue
- should ARCHES also provide cross-matches for the original 3XMM DR5 ?
- Please send feedback



- The future:
 - Xmatch tool will be made available through CDS in the forthcoming months. Will hopefully ease the use of the tool through readymade scenarios
 - Integrated Cluster Finder will stand as it is now
 - SED database maintained at INTA
 - Tool maintenance guaranteed on medium time scales
 - Existing cross-matched catalogues (using 3XMMe, GALEX, UCAC, SDSS, V/IPHAS, 2MASS, UKIDSS, WISE, GLIMPSE, AKARI/FIS and a merge of FIRST, NVSS and SUMS for the radio band) will be distributed through various channels (XCatDB, CDS, SED archive, etc)
 - Resource to provide and validate new cross-matched catalogues (with DR6, and new releases of archival catalogues) and SEDs yet to be found.



Thanks for attending the workshop
and have a safe journey back

and for the ARCHES team
'Closure Meeting' here at 14:00