# TOO CHAPTER

# WHAT HAS BEEN DONE

- ToO includes two part :
  - Search for SVOM counterparts on multi-wavelength triggers (Paul O'Brien)
  - Search for SVOM counterparts on multi-messenger triggers (Cyril Lachaud)
- What has changed :
  - ToO description has moved to the mission profile (including the tiling procedure)
  - MXT instrument part will compare MXT and XRT in terms of tiling performances (with sensitivity, F.O.V., deadtimes…)

# CONTENT

- Introduction section for the description of the future of the domain in terms of multi-wavelength and multi-messenger

## 1.1 Introduction

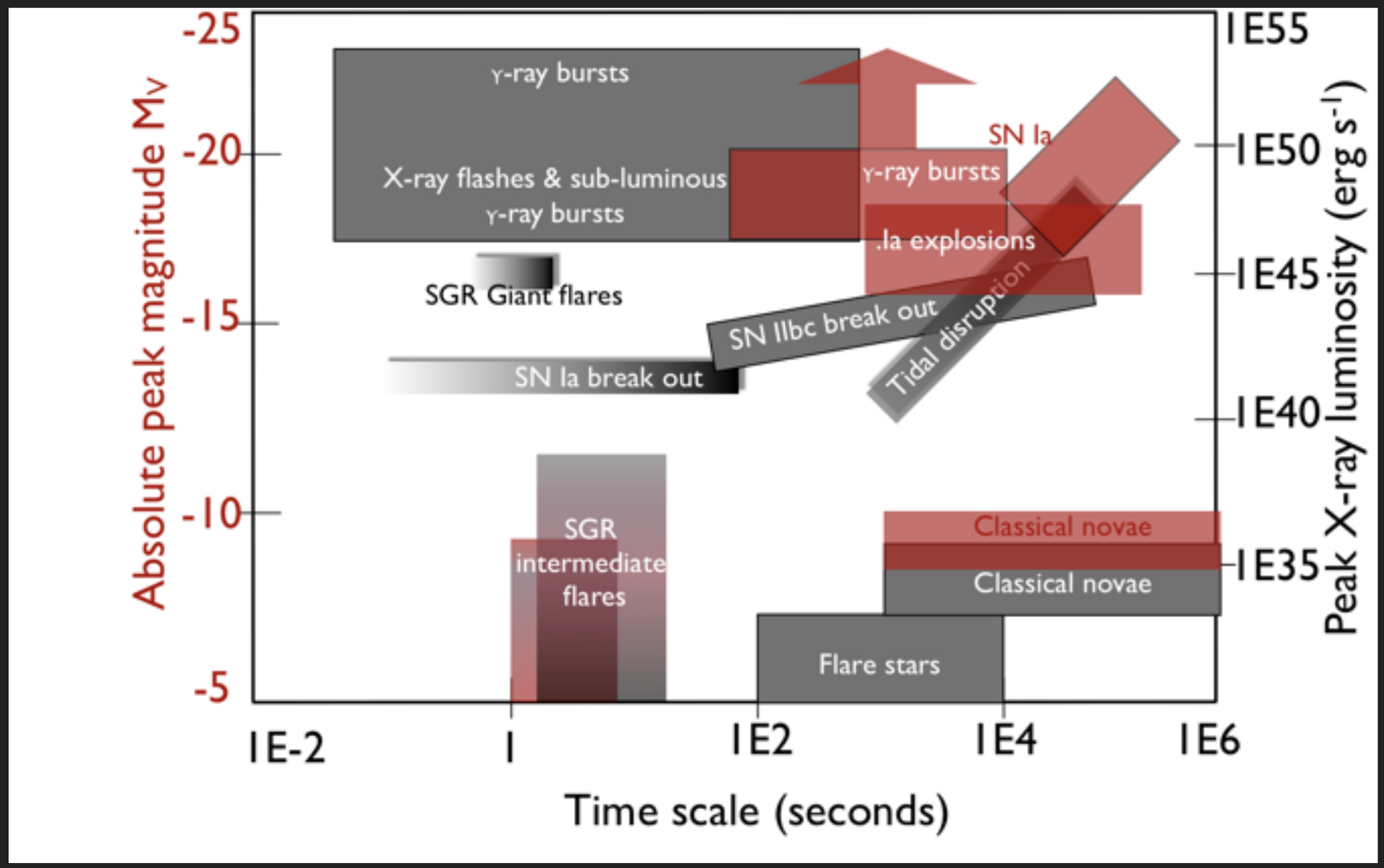
SVOM will become a premier time-domain machine in the early part of the next decade, an era when time domain astronomy will truly come of age in terms of multi-wavelength, wide-field sky coverage from the radio to the gamma-ray band plus multi-messenger information. The advent of SKA (radio), LSST (optical) and CTA and HAWC (very high energy) on the ground, for example, will provide a very large increase in the number of rapidly available triggers for wide variety of sources types. Other electromagnetic facilities, such as the SVOM GWAC, will also find many transients.

The launch of SVOM will also coincide with an era where there will be a significant improvement in the capability of multi-messenger observatories. The gravitational wave observatories will have improved sensitivity and provide localisations of size 5-10 square degrees [Paul : needs a reference] compared to the current several hundred square degrees. SVOM can tile such regions quickly and efficiently. The first phase of the new KM3Net neutrino facility will complement IceCube and also provide much improved localisations which the SVOM narrow-field instruments can observe in a single pointing [Paul : check numbers].

The much larger volume of triggers will provide a challenging scientific opportunity for SVOM which will have the on-board capability to obtain multi-wavelength follow-up observations.

# CONTENT

- Multi-wavelength : description of the transient sources
- Figure



# CONTENT

- Multi-messenger : description of the existing and forthcoming experiments (GW, Neutrinos, High Energy Photons) with expected trigger rates and localisation error (very speculative)
- We plan to produce a figure including these informations (with Damien Dornic, Nicolas Leroy and Frederic Piron)