SPARTAN

SPECTROSCOPIC AND PHOTOMETRIC FITTING TOOL FOR ASTRONOMICAL ANALYSIS

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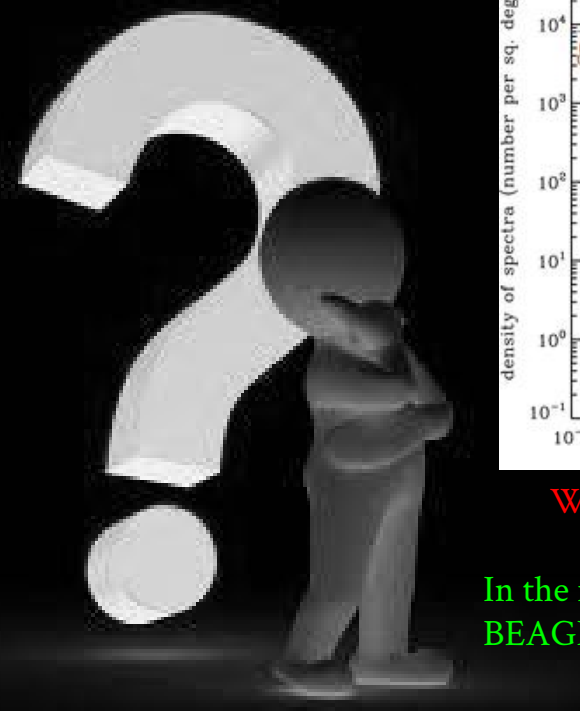
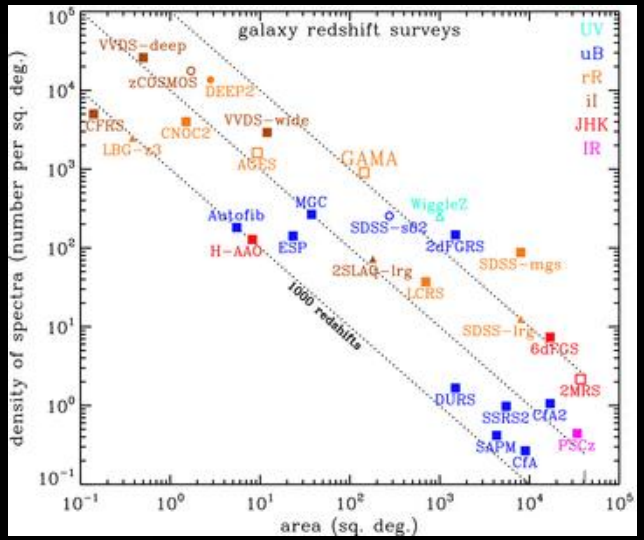


2000s→ Development of Spectroscopic survey based on mainly on multi-wavelength photometry



ALL THESE SURVEYS HAVE MULTI-WAVELENGTH PHOTOMETRY AVAILABLE from UV/OPTICAL TO INFRARED

We have now galaxies observed with multiple spectrographs (for small samples)

Ex: MASSIV + VVDS (SINFONI + VIMOS)
VUDS + 3DHST (VIMOS + HST)

We enter the era where multi-instrument photometry and spectroscopy is available

In the meantime galaxy fitting showed up with numerous softwares: LePhare, EAZY, HyperZ, BEAGLE…

But no one combine in single fitting process spectroscopy + photometry

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SPARTAN FIT

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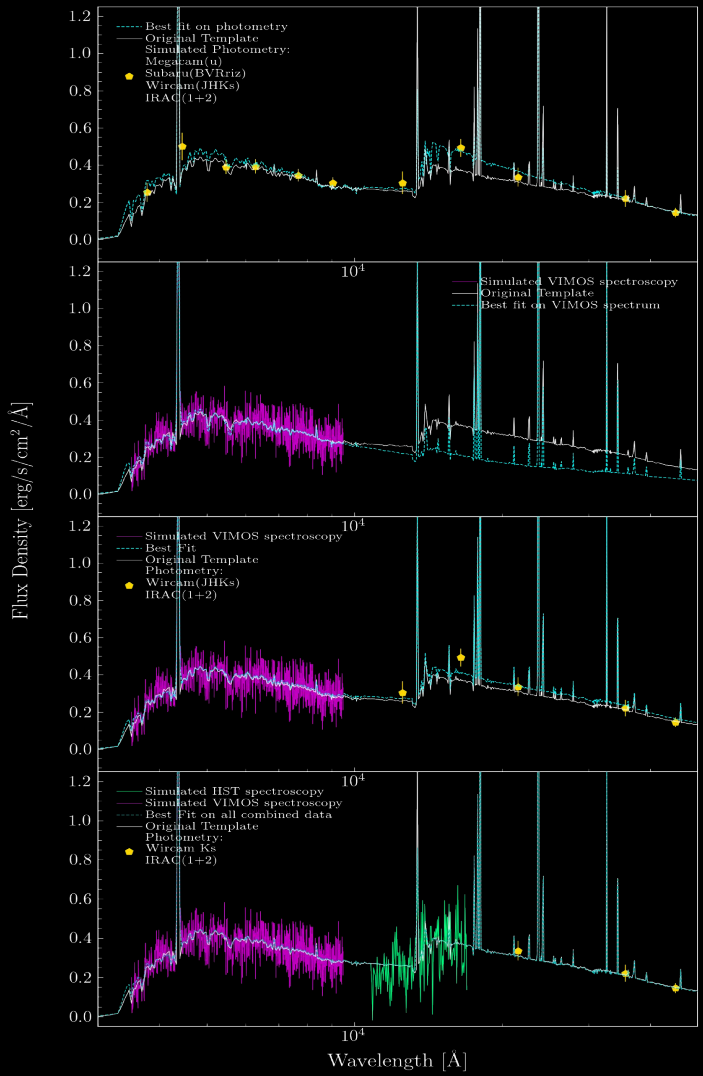
SPARTAN-FIT is the heart of the code.

It is able to take into account combinations of multi-instrument photometry and/or multi-instrument spectroscopy in a given fit

Comparison of the fit of the same object with different input data



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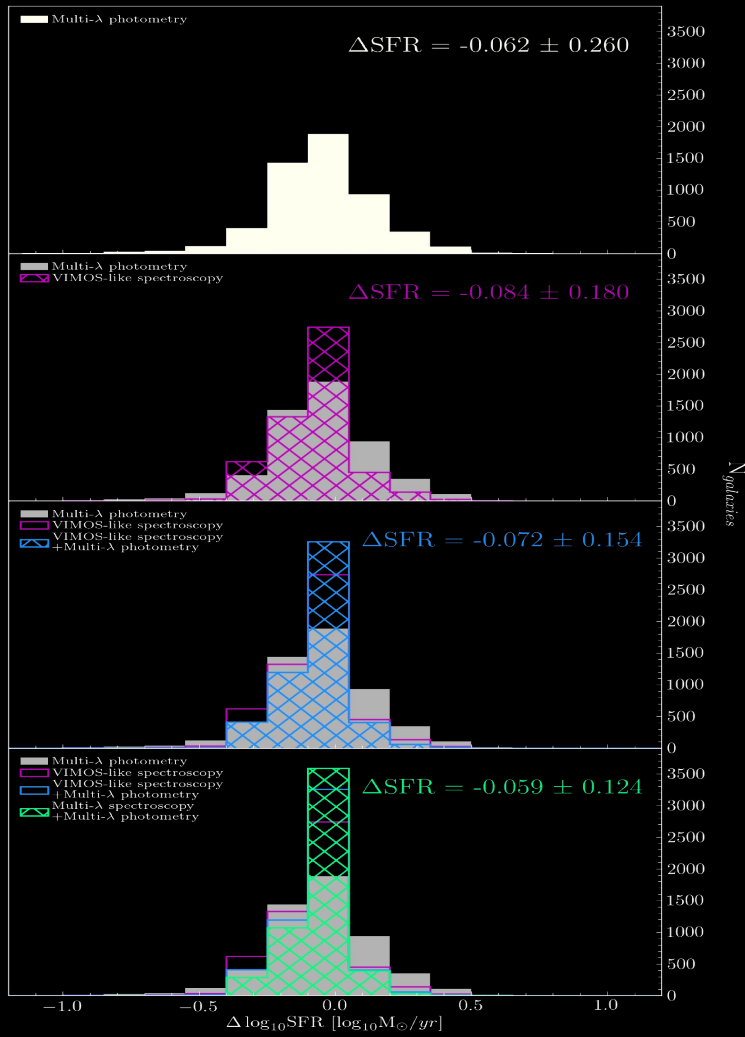
SIM

Constraints on parameters depend on the combination itself → SPARTAN-SIM allows one to study particular combinations of data and their influence in the fitting outputs.

It can simulate multi-instrument photometry and multi-instrument spectroscopy.

Comparison of Star Formation Rate estimation of simulated galaxies with different fitted data



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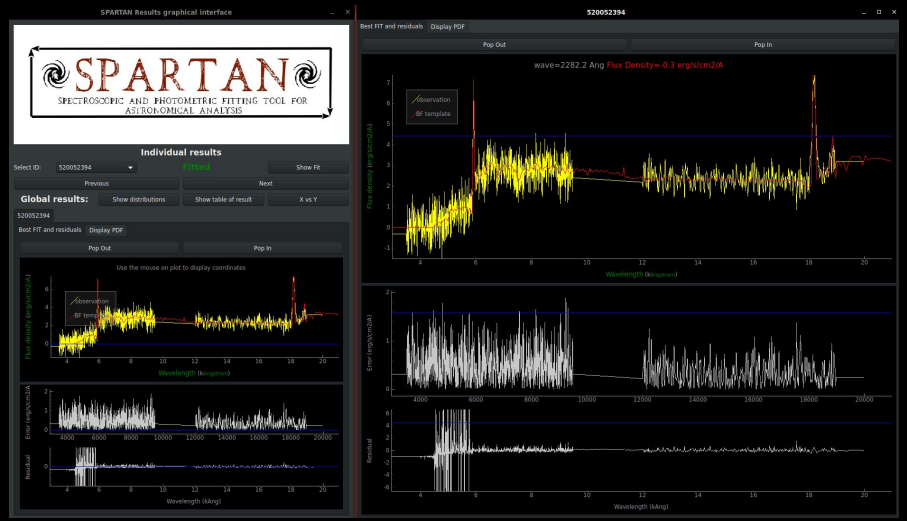
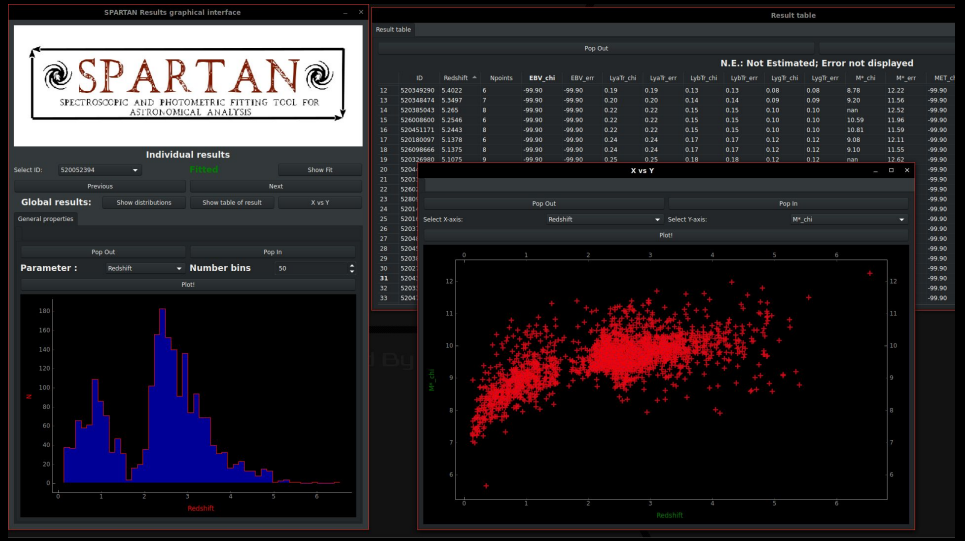
INTERFACE

Three interfaces are included in SPARTAN:

- The CLI for general SPARTAN commands
- The TUI for the configuration of the fitting process
- The GUI for visualizing results of a fitting run.

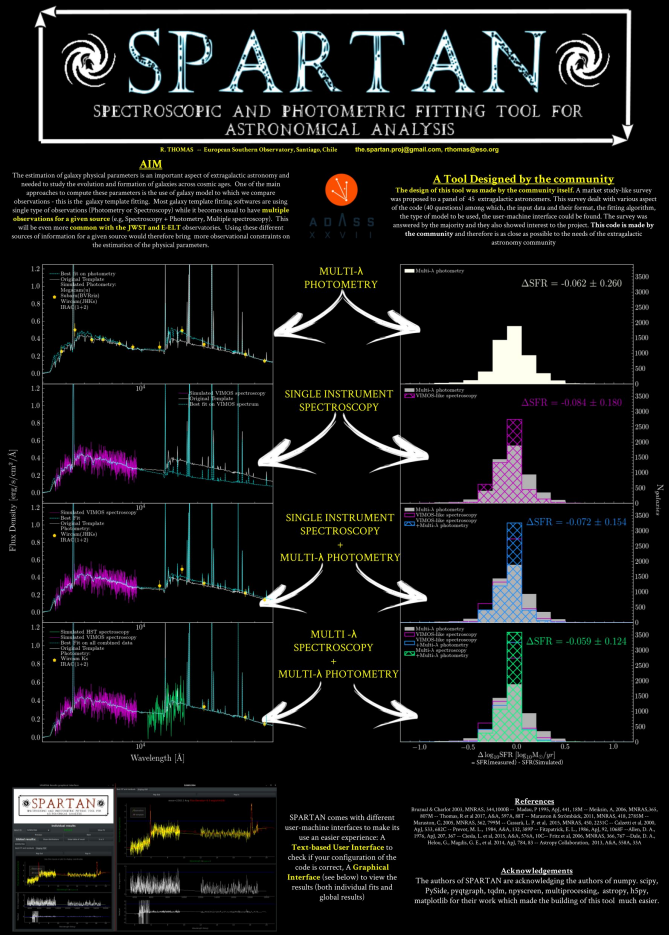




Target Release date: Early 2018

→ Open Source software
→ Python 3.5+
→ For Linux and MacOS
→ Will be available on pip

Make use of these libraries:
-Numpy
-Scipy
-fitsio
-Multiprocessing
-npyscreen
-PySide & pyqtgraph
-.....



Poster available during the conference: SLOT XXXX