

Gaia data in ESASky

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- [illegible]

ESASky concept



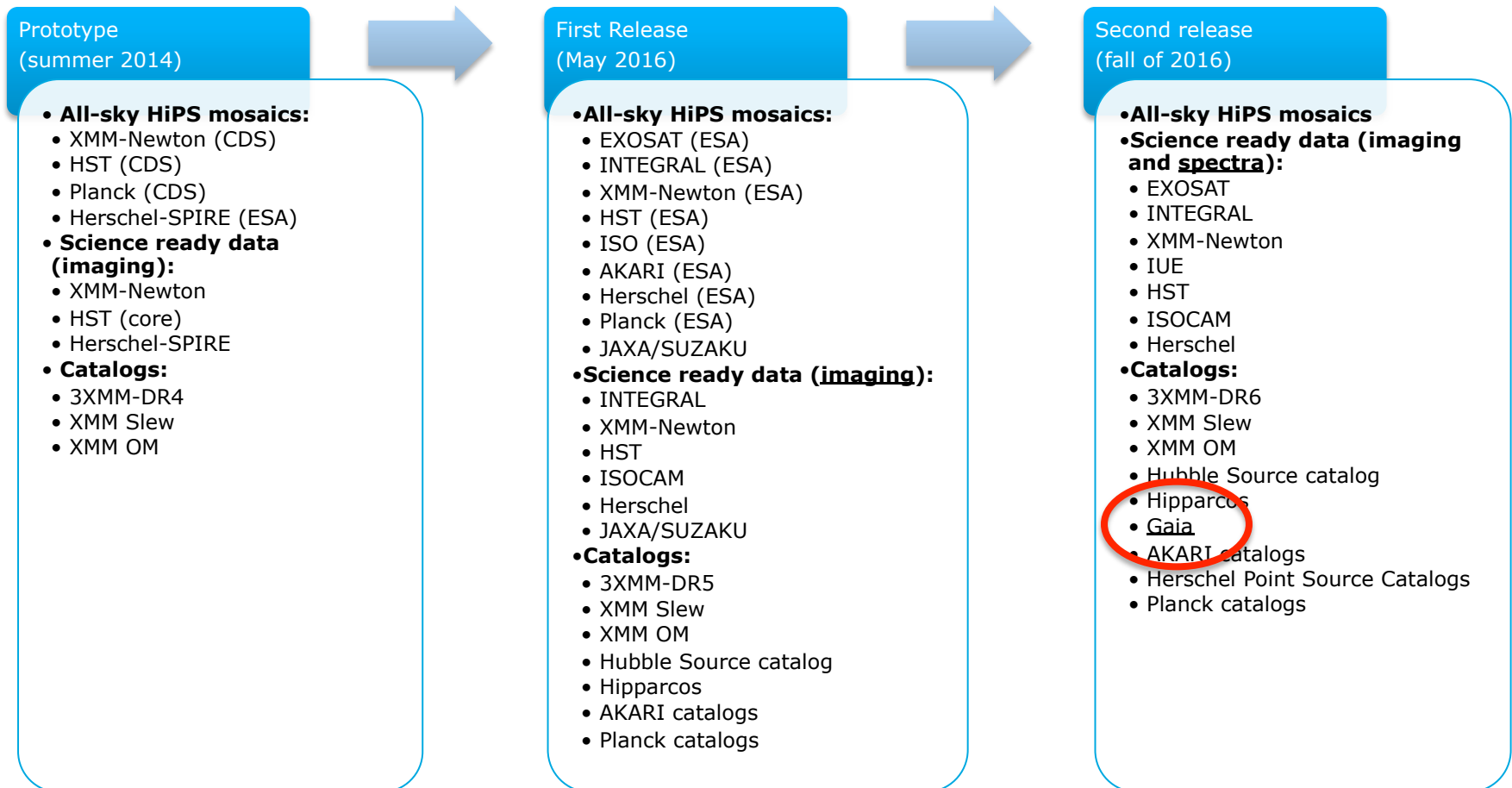
- **Goal:** to facilitate data discovery and archival science for ALL users
 - Multi-wavelength
 - Project agnostic
 - Exploration
- Interface to all astronomy archives

ESASky



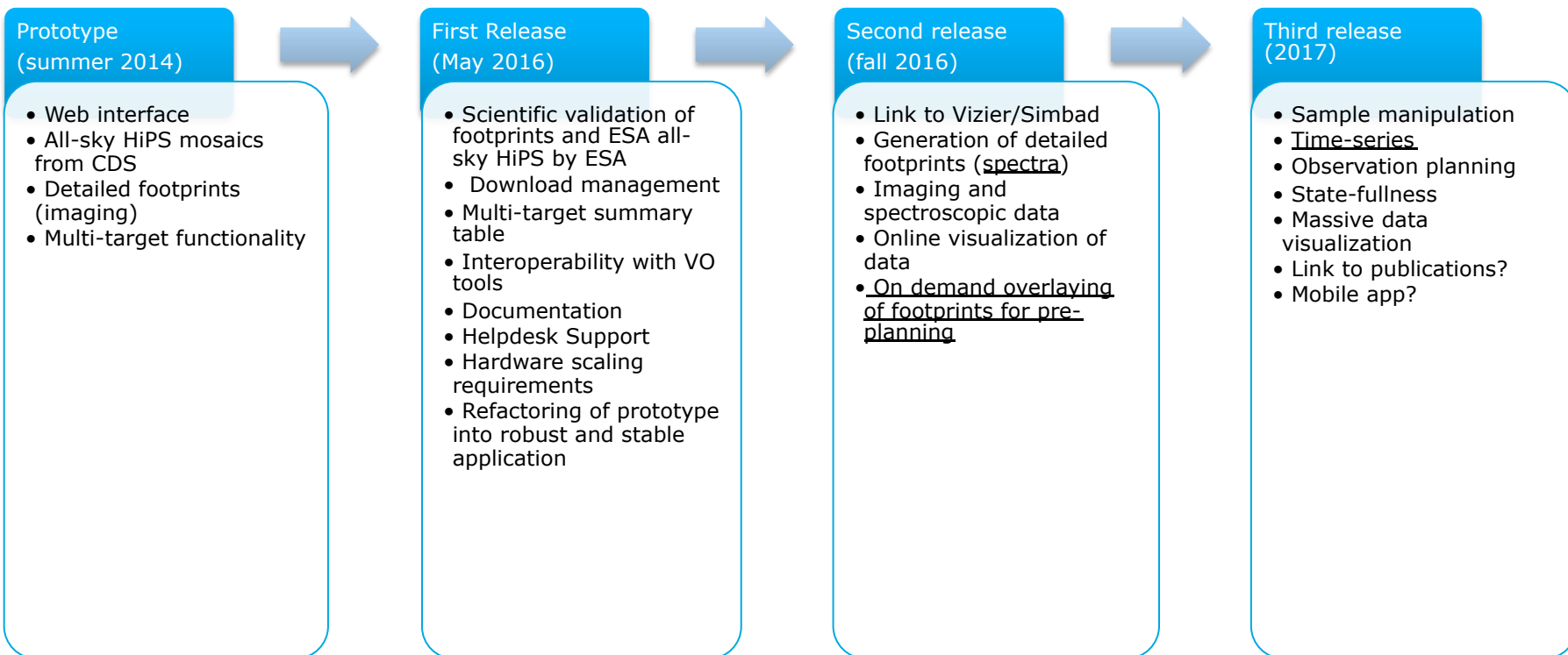
- First release in May 2016: <http://sky.esa.int>

ESASky data contents roadmap



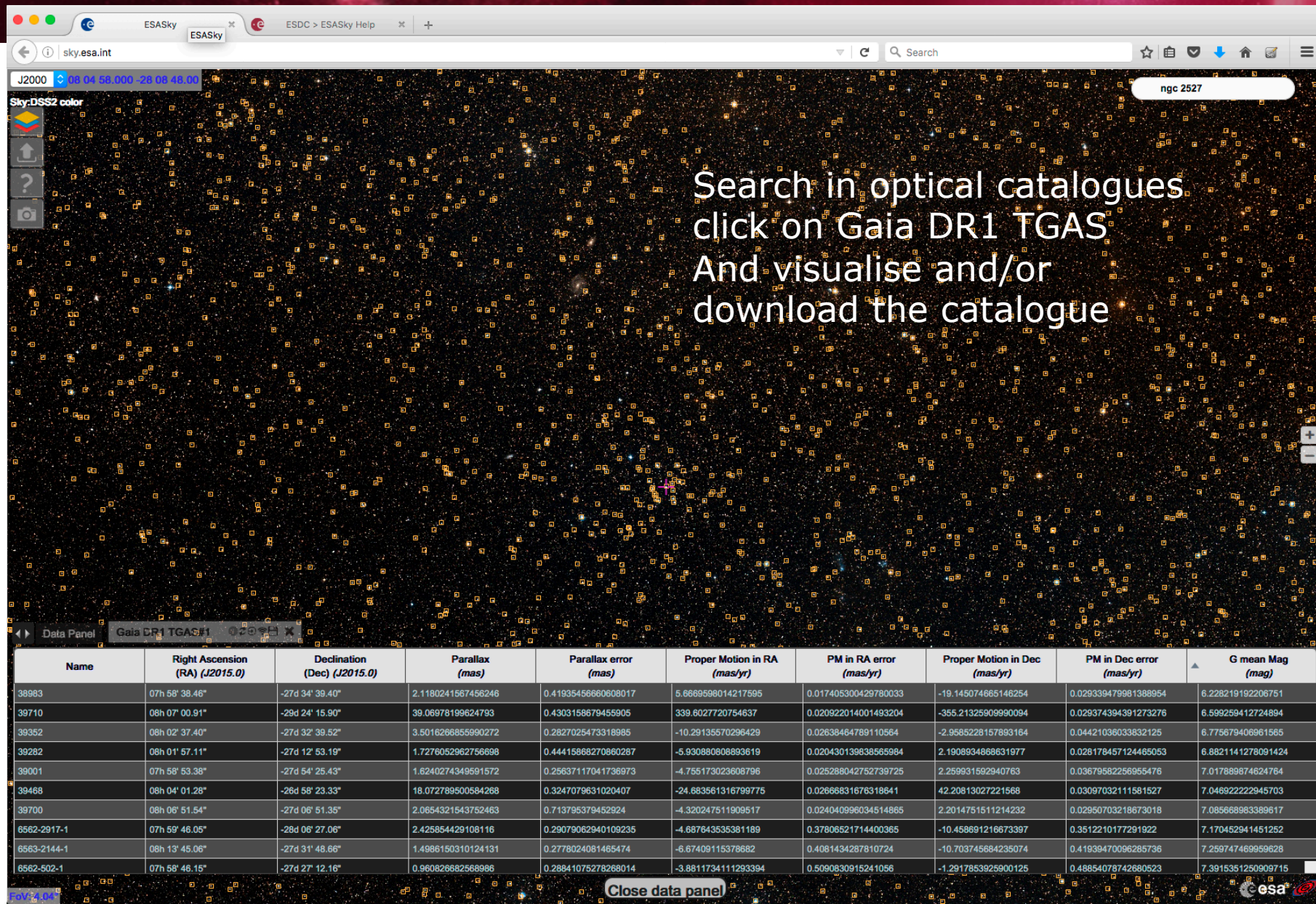
Aim: continuous integration, testing and releasing

ESASky feature roadmap



Aim: continuous integration, testing and releasing

Gaia DR1 TGAS in ESASky



Thanks!



J2000 15 00 32.172 -41 32 34.07

Sky-XMM-Newton EPIC color

Upload target list

Target list

- SN 1005
- SNR G074.0-08.5
- SNR G109.1-01.0
- SNR G188.0+04.3
- SNR G203.8-03.3
- SNR G288.2-01.2
- SNR G315.0-02.3
- SNR G328.3-01.8

Navigation buttons: back, forward, stop, etc.

sn1005

<http://sky.esa.int>

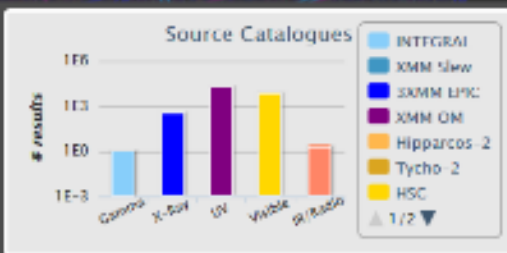
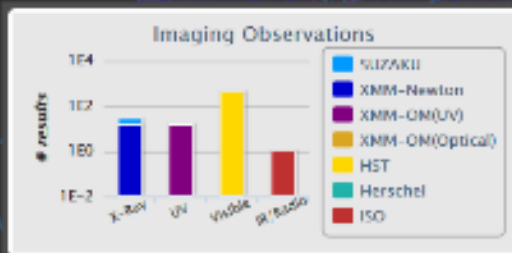
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<http://www.cosmos.esa.int/web/esdc/esasky-help>

Data Panel SUZAKU1 XMM-Newton1 XMM-OM(UV)1



Click on histograms bars to start retrieving metadata.

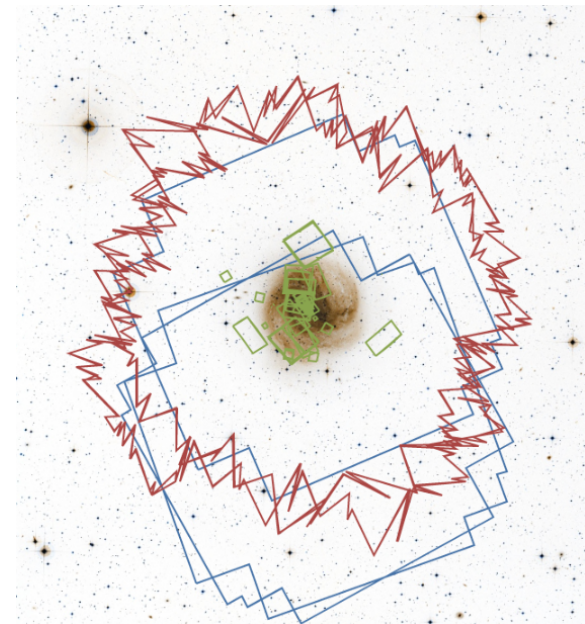
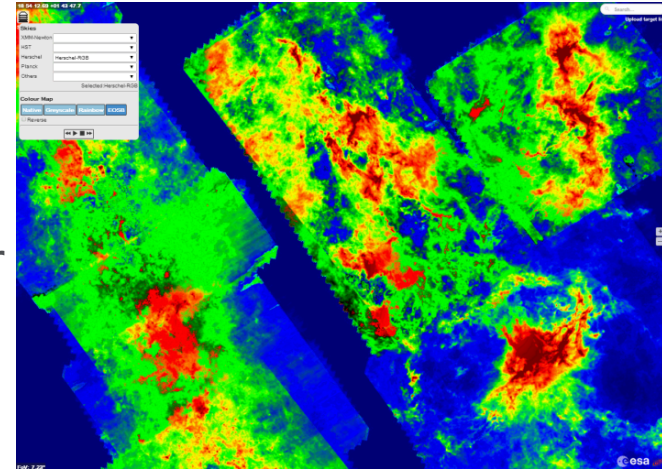
Close data panel

Additional slides

ESASky v1.0 - Backend Data Generation



- HiPS: Hierarchical Progressive Survey
 - HEALPix sky tessellation
 - Number of levels depend on pixel angular resolution
 - Planck (low) 3 levels
 - Herschel (medium) 7 levels
 - HST (high) 14 levels
- Footprints
 - HST: Provided by project
 - Herschel: Footprint Finder (ST-ECF)
 - XMM: Instrumental + pointing



ESASky v1.0- Backend Data Access



- Apache HTTP Server
 - Serves HiPS requests
- Java Servlet container
 - Serves TAP & Target Resolver requests
- Database
 - PostgreSQL DB
 - Spherical data types library (PgSphere)
 - Footprints -> Spherical data types
- Usage of IVOA Protocols & Standards
 - TAP requests
 - ADQL translation to SQL + PgSphere
 - Storage of STC-S footprint information



ESASky v1.0 - Frontend

- Running on a Web Browser (HTML5/CSS3)
- Google Web Toolkit
 - Aladin Lite wrapper (JSNI)
 - Data Visualization (Highcharts)
- Usage of IVOA Protocols
 - TAP accessing archive metadata
 - ADQL describing complex FoVs
- Astronomical services access
 - Target coordinates resolver
 - Angular size resolver



Highcharts JS



ESASky team



- Fabrizio Giordano (key person, full-time)
- María Henar Sarmiento (part-time, GUI)
- Elena Racero (part-time, HiPS and footprints)
- Belén López Martí (full-time EXPRO, HiPS development)
- Pilar de Teodoro (part-time, DB)
- Sara Nieto (part-time, DB ingestion)
- Raúl Gutiérrez (part-time, backend)
- Juan González (part-time, DB optimization)