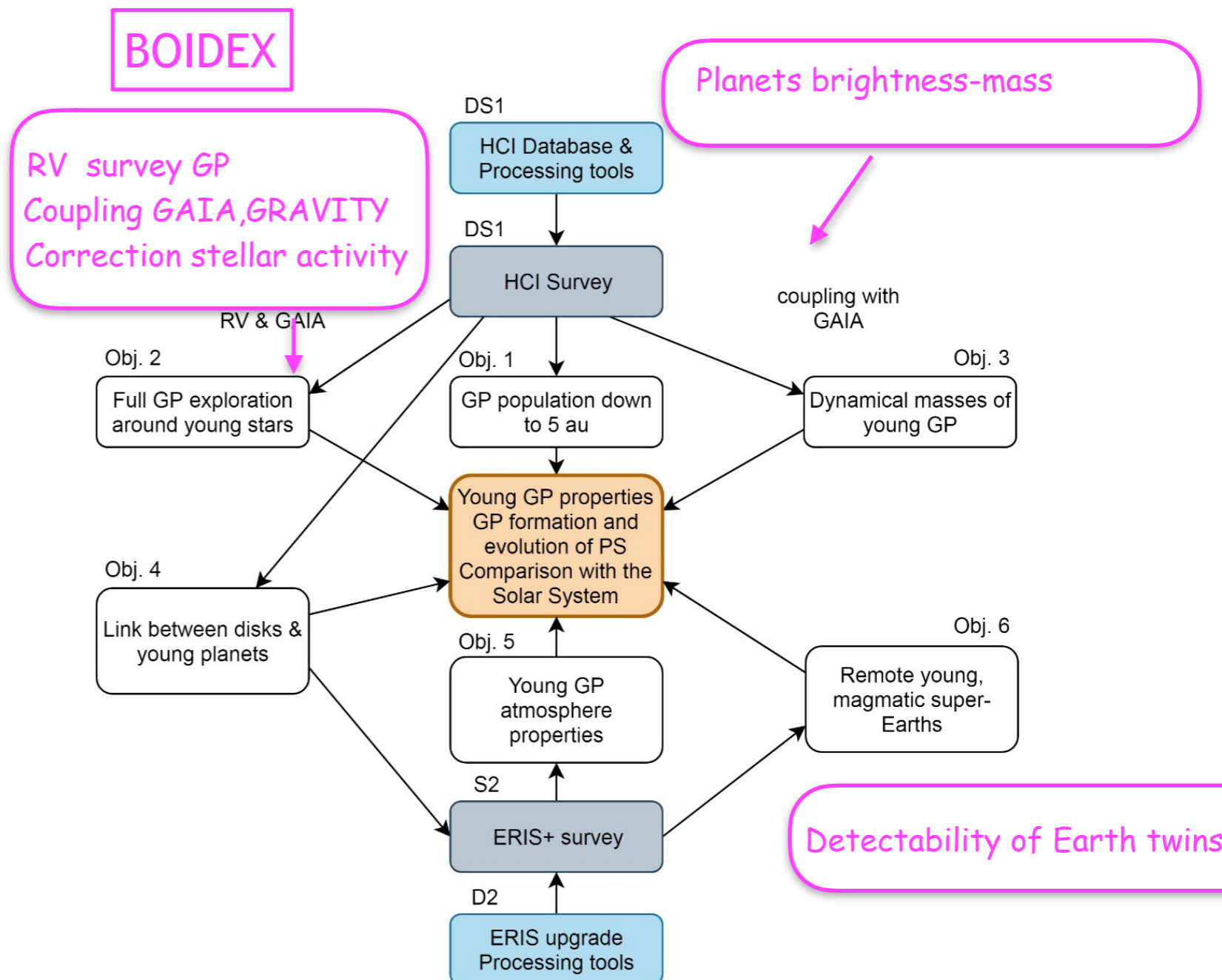# Progress Meeting 1

December, 17th, 2020
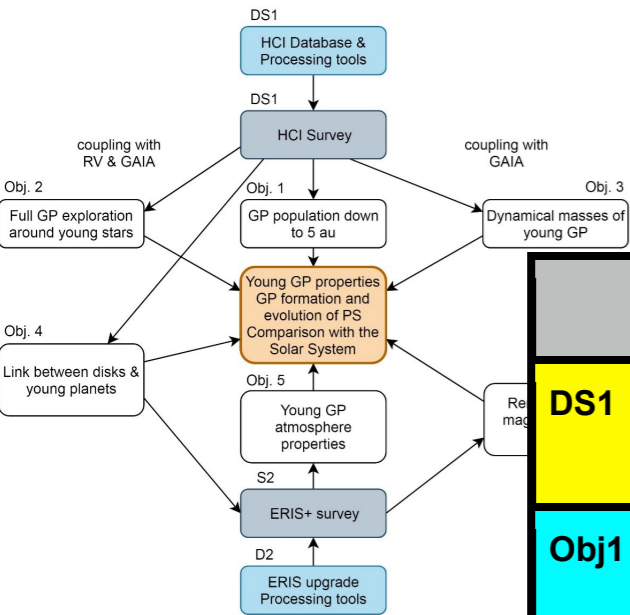
Agenda

- Work Breakdown Structure
- Progress since KO
- Rules wrt tools (and data)
- AOB
- Actions

COBREX objectives and WPs

- Obj.1 Determine the GP radial distribution and frequency down to 5 au

- Obj.2 Get a complete view of GP population, from hundredths to hundreds of au ; estimate GP total rate

- Obj.3 Test masses and brightnesses relationships

- Obj.4 Study planets-disks link

- Obj.5 Determine imaged GP atmospheric properties

- Obj.6 Explore the possibility to image young Earth

BOIDEX

RV survey GP
Coupling GAIA,GRAVITY
Correction stellar activity

Planets brightness-mass

DS1
HCI Database & Processing tools

DS1
HCI Survey

coupling with GAIA

RV & GAIA

Obj. 2
Full GP exploration around young stars

Obj. 1
GP population down to 5 au

Obj. 3
Dynamical masses of young GP

Young GP properties
GP formation and evolution of PS
Comparison with the Solar System

Obj. 4
Link between disks & young planets

Obj. 5
Young GP atmosphere properties

Obj. 6
Remote young, magmatic super-Earths

S2
ERIS+ survey

Detectability of Earth twins

D2
ERIS upgrade Processing tools

Project concept map

- **DS1** — HCI Database & Processing tools
- **DS1** — HCI Survey
  - coupling with RV & GAIA
  - coupling with GAIA
- **Obj. 2** — Full GP exploration around young stars
- **Obj. 1** — GP population down to 5 au
- **Obj. 3** — Dynamical masses of young GP
- **Young GP properties GP formation and evolution of PS Comparison with the Solar System**
- **Obj. 4** — Link between disks & young planets
- **Obj. 5** — Young GP atmosphere properties
- Re... mag... (partially obscured)
- **S2** — ERIS+ survey
- **D2** — ERIS upgrade Processing tools

Work plan timeline

	Y1 (2020-2021)	Y2 (2021-2022)	Y3 (2022-2023)	Y4 (2023-2024)	Y5 (2024-2025)
DS1	Infrastructure Processing tools	Data processing Publications of Planet discoveries	Cont'd GPI		
Obj1			Analysis SPHERE / Comparison to models SPHERE Analysis GPI Publications	Comparison to models GPI Global analysis / Publications	
Obj. 2	Software preparation MESS3	Early analysis with DR3 / Cont'd Publications		SW Preparation MESS4	Analysis with DR4 and DS1outputs	Publications
Obj.3		Early studies with DR3 and DS1 outputs Publications	Early studies with DR3 and DS1 outputs Publications	Complete analysis with DR4 and A1 outputs	Cont'd Publications
D2	ERIS upgrade	Instrument tests			
	MM processing tools	MM processing tools			
S2		ERIS+ survey preparation	ERIS+ survey	ERIS+ survey	
Obj. 4		Analysis of ERIS+ Analysis of SPHERE and GPI disks - Publications	Analysis of ERIS+ Analysis of SPHERE and GPI disks - Publications	Analysis of ERIS+ Analysis of SPHERE and GPI disks - Publications	Publications
Obj.5			Grids of spectra - ERIS+ vipa obs atmospheres - Publications	Grids of spectra - ERIS+ vipa obs atmospheres - Publications	Grids of spectra - ERIS+ vipa obs atmospheres - Publications
Obj. 6			Detectability studies	Search in DS1 and S2 outputs	Publications

Work Breakdown Structure

- WP0: Management
- WP1: Survey infrastructure and tools
  - WP1.1 Cobrex DC infrastructure
  - WP1.2 SW dev for exoplanet survey
  - WP1.3 SW for disk surveys
- WP2: ERIS dev
  - WP2.1 Eris Upgrade
  - WP2.2 MM Software tools
- WP3: Exoplanets demographics
  - WP3.1 GP Survey : stats of GP
  - WP3.2 Full exploration of GP
  - WP3.3 Observability of remote magma Earths
- WP4: GP characterization
  - WP4.1 Dynamical masses
  - WP4.2 Orbital properties
  - WP4.3 Atmosphere/interiors modelling
- WP5: Disks studies
  - WP5.1 Disks survey
  - WP5.1 Link with planets
  - WP5.1 Individual cases
- WP6: PS
  - WP6.1 Comparison to formation models
  - WP6.2 Comparison to SS

Progress

- WP0: Management
  - Minutes KO: https://docs.google.com/document/d/1KKOtaNQv-vSkSeCQnV45A4DEjv2mGBL2/edit#heading=h.c2hojfr3smvl
  - LOGO
  - Website in prep: https://cobrex.lesia.obspm.fr/?lang=fr
  - Hirings:
    - Auditions for ING1 this week
    - Announcement (CNRS) of Post Doc position R&D algo, to couple PACO and ML
    - AO for internships 2021: pre-PhD1, pre-PhD2, pre-PHD3, MM on SINFONI data, GP for RV analysis (BOIDEX): issued; 2 candidates selected, auditions in progress for the others.
    - AO for PhD1, PhD2, PhD3 in prep; to be announced end of Dec/ Jan; CNRS: mid Jan ? What about PhD2' (Benjamin) ?
  - Preparation of a document @ tools (cf below)
  - Progress meetings : monthly, First Friday, 3pm. OK ?

- WP1: Survey infrastructure and tools
  - WP1.1 Cobrex DC infrastructure : servers received; data storage (Nadege ?)
  - WP1.2 SW dev for exoplanet survey :
    - Discussions about strategy necessary : use of PACO + other algorithms ?
    - Discussions about ML on PACO current outputs started
- WP2: ERIS dev
  - WP2.1 Eris Upgrade : techn. doc+formal presentation to IPAG (15/12), well received; discussions with LESIA on cry-tests (14/12). We will need ESO to develop instrument control SW + templates.
  - WP2.2 MM Software tools: info: no ADI tools for SPIFFIER from ESO
- WP4: GP characterization
  - WP4.1 and 2 Dynamical masses & orbital properties : upgrade of MCMC to include Hip-Gaia in progress

Rules @ Data

- Les data produites par COBREX DC sont la propriété de COBREX. Seront MAD du DC après publications.
- Collaborations envisagées à ce jour :
  - Avec CRAL
  - SHINE pour la partie SHINE data
  - …

Rules @ outils
Charte d'utilisation des outils partagés

- Nécessité d'un accord sur utilisation des outils.
- Document de référence à débattre et valider
- Classification des différents outils
- Règles d'utilisation associées

https://docs.google.com/document/d/1eBhO2QKKdWrsMnJG5rpx4tNFH9SSOmgP6cd-Dug1-zw/edit

Action (KO)	WP	Responsible ?	Deadline	Comments	Status
Webpage architecture		AMl, GCh	Nov. 30		closed
ERIS+ internal documentdocument		LJo	Nov. 15		closed
ERIS+ proposal		AML	Dec, 30		pending IPAG feedback
ENG1 AO		DAl	Nov. 10		closed
List of hiring in 2021		AML	Nov. 15		closed
Submit internship offers		AML	asap	inputs needed	closed
Check GPI timestamps		JMa	asap	done by GCh	closed
Approche inverse pour IFS in COBREX?		MLa/AML	31 Jan 2021		closed
Converger sur prop de thèse modélisation		BCh/AML	asap		
Creuser hypothèses modèles Linder		BCh	asap		in progress
Suivi link with VIPA ?		AML/ACa			
ERIS+ tests à froid ?		LJo/ABo	asap		in progress
Check centrage derriere masque		LJo/AML	asap		pending
Check cold stop		LJO/AML	asap		pending
Sigle (vote)		AML	Nov, 13		closed

Action (17/12/2020)	WP	Responsible ?	Deadline	Comments	Status
Complete Website	WP0	AML,GCh	Jan, 15		
Complete intern selection	WP0+	AML + all	Jan, 15		
Issue announc. PhD (CNRS +exoplanets+AAS?) + PD1		AML+all	Jan, 15		
Final version charte on tools inputs		AML	Jan,10		
Converge on SW 1.2 strategy : which add tool ?		AML, MLa, PDe, ABo, GCh	Mar, 31		
Liste questions Ric Davies		all	Dec, 25		
Doc ERIS+ ESO		AML,GCh,MBo	Jan, 30		
PhD2'		BCh, SMa	Dec, 25		
Check accès serveurs pour encadrants de thèse		MBo,ABo, MLa	Feb, 5		

Action (17/12/2020)	WP	Responsible ?	Deadline	Comments	Status
ERIS+ proposal ESO		AML,GCh,MBo	Jan, 30		pending IPAG feedback
Converger sur prop de thèse modélisation PHD2'		BCh/AML	Dec, 25		
Creuser hypothèses modèles Linder		BCh	asap		
Suivi link with VIPA ?		AML/ACa			
ERIS+ tests à froid ?		LJo/ABo	asap		
Check centrage derriere masque		LJo/AML	asap		
Check cold stop		LJO/AML	asap		
Complete Website	WP0	AML,GCh	Jan, 15		
Complete interns selection	WP0+	AML + all	Jan, 15		
Issue announc. PhD (CNRS +exoplanets+AAS?) + PD1		AML+all	Jan, 15		
Final version charte on tools inputs		AML	Jan,10		
Converge on SW 1.2 strategy : which add tool ?		AML, MLa, PDe, ABo, GCh	Mar, 31		
Liste questions Ric Davies		AML,all	Dec, 25		
Check accès serveurs pour encadrants de thèse		MBo,ABo, MLa	Feb, 5		