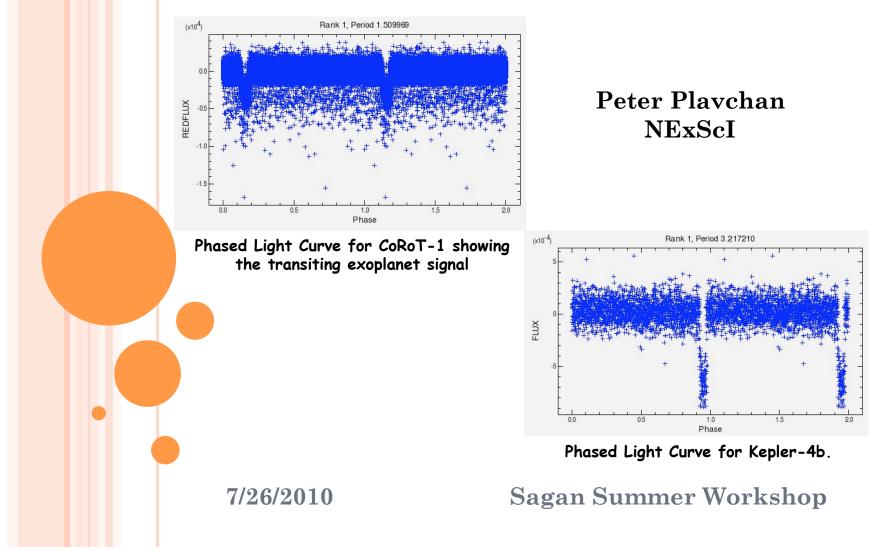
ACCESSING KEPLER AND COROT DATA

NStED

via MAST, NStED, the IAS Data and Operations Center, & LAEFF

NASA/IPAC/NEXSCI STAR AND EXOPLANET DATABASE



7/26/10 Peter Plavchan

BINARY FITS FILES VS. ASCII

- Modern time-series data sets are served in two formats:
 - Binary FITS Tables
 - Pros:
 - Standard data format
 - Compact file size
 - Standard headers (FITS keywords)
 - Supports inclusion of ancillary information
 - Cons:
 - Difficult to work with other visualization and manipulation tools
 - e.g., how to plot, load into Excel?
 - Fixed precision in data values float or double vs. formatting specified in somewhat obscure keywords
 - 64-bit vs. 32-bit wonkiness from heritage tools (e.g. long doubles)
 - Original Kepler public data release introduced machine precision errors into time and position values larger than the other noise sources.

BINARY FITS FILES VS. ASCII Modern time-series data sets are served in two

- Modern time-series data sets are served in two formats:
 - ASCII
 - Pros:
 - (relatively) Easy to apply multiple tools
 - IDL, excel, mathematica, other plotting utilities
 - Precision tailored to data set
 - Easier to directly investigate data values with simple file viewers

• Cons:

- Lack of standardized formatting
 - e.g. tab vs. space vs. comma vs. fixed width, etc.
- Lack of standardized headers
 - e.g. NStED IPAC ASCII keywords and formatting
- Larger file sizes

SED NASA/IPAC/NEXECI STAR AND EXOPLANET DATABASE

KEPLER

• MAST is the official archive for Kepler:

- Multimission Archive at STScI
- <u>http://archive.stsci.edu</u>
- Serves FITS light curves

• NStED also serves Kepler data:

- NASA/IPAC/NExScI Star and Exoplanet Database
- <u>http://nsted.ipac.caltech.edu</u>
- Serves FITS and ASCII light curves
- Value added statistics and periodogram tool

MAST STSci	Tools Mission_Search Tutorial Site Search					
About MAST Getting S	tarted					
FAQ	The Multimission Archive at STScI is a NASA funded project to	<u>NEWS</u>				
High-Level Science	support and provide to the astronomical community a variety of	June 15, 2010:				
Products	astronomical data archives, with the primary focus on scientifically related data sets in the optical, ultraviolet, and near-infrared parts	Kepler Public Data Release	-7			
Software +	of the spectrum.	May 21, 2010:				
FITS •		Data Release 2 of the HST ACS Coma cluster Treasury survey is now available.	7/26/10			
Archive Manual	Search MAST for a Target or Mission	May 14, 2010:				
Related Sites	Enter Target name (or Coordinates):	EPOCh Data Now Archived at MAST	Pete			
NASA Datacenters	Resolver: SIMBAD NED Don't Resolve	May 12, 2010:	r P			
MAST Services	and/or Band/Data Type(s): more options	Announcing the release of "A Cataclysmic Variables and Related Objects	Peter Plavchan			
MAST and the VO	Extreme Far Near UV UV UV Optical IR Radio	Ultraviolet Spectral Catalog (CVARO-UVSCAT)"	nan			
Newsletters & Reports	Images Spectra Spectra	April 23, 2010: HST 20th Anniversary				
Data Use Policy	Other	Science Ready Products Now Available				
Data act Identifican	Search Reset Help	RSS 2.0				
Dataset Identifiers		Missions				
Acknowledgments		Hubble				
		Hubble Legacy Archive				
	Coogle	HSTonline				
	Google Coogle Search	DSS				
	○ WWW ⊙ MAST	EPOCH				
		GALEX				
	Note: OTO-I are arrived links to Mich access that are not of the	XMM-OM				
	Note: STScI may provide links to Web pages that are not part of the STScI, AURA, NASA, or ESA domain. These sites are managed by	BEFS (ORFEUS)				
	organizations, companies or individuals not under our control, and neither	Copernicus				
	STScl, AURA, NASA, nor ESA are responsible for the information or links you may find there. We provide these links as a convenience and the	EUVE				
	presence of these links is not an endorsement of the site.	FUSE				
			1			

MAS1		
MAST STSci	Tools - Mission_Search - Tutorial Site Search	
About MAST Getting St	arted 2	
FAQ	The Multimission Archive at STScI is a NASA funded project to	<u>NEWS</u>
High-Level Science	support and provide to the astronomical community a variety of astronomical data archives, with the primary focus on scientifically	L Repler Public Data Release
Software F	related data sets in the optical, ultraviolet, and near-infrared parts of the spectrum.	May 21, 2010: Data Release 2 of the HST ACS Coma cluster Treasury
FITS	Search MAST for a Target or Mission	survey is now available.
Related Sites	Enter Target name (or Coordinates):	EPOCh Data Now Archived at MAST
NASA Datacenters	Resolver: SIMBAD NED Don't Resolve 	May 12, 2010:
MAST Services	and/or Band/Data Type(s): more options	EPOCh Data Now Archived at MAST May 12, 2010: Announcing the release of "A Cataclysmic Variables and Related Objects Ultraviolet Spectral Catalog (CVARO-LIVSCAT)"
MAST and the VO	Extreme Far Near UV UV UV Optical IR Radio	
Newsletters & Reports	Images I I I I I I I I I I I I I I I I I I I	April 23, 2010: HST 20th Anniversary Science Ready Products
Data Use Policy	Other	Now Available
Dataset Identifiers	Search Reset Help	Missions
Acknowledgments		Hubble
		Hubble Legacy Archive
\bigcirc	Coogle	HSTonline
	Google" Google Search	DSS
	○ WWW ⊙ MAST	EPOCH
		GALEX
		3 KEPLER
	Note: STScI may provide links to Web pages that are not part of the STScI, AURA, NASA, or ESA domain. These sites are managed by	
	organizations, companies or individuals not under our control, and neither	
	STScI, AURA, NASA, nor ESA are responsible for the information or links you may find there. We provide these links as a convenience and the	
	presence of these links is not an endorsement of the site.	FUSE

Kanla

	Kepl	er							and and a second	C.C.	
MAST	STScl	Tools	✓ Mission_Se	arch 👻	Tutor	ial	Site Search				1
Kepler Home	About I	Kepler	Getting Started	Regist	ration	Kep	ler Data Search	Kepler Target Sea	arch	FFI Search	
Data S	earch		http	o://ai	cchi	ve.	stsci.ed	du/keple		NEW	
		Late	est News					_	J	une 15, 201	0:
FAQ		•	O4 light output	data av	nonted (to bo	available the c	and of July	к	epler Public Da	ata Release
GO Program			ck Links								: ow Archived
Search & Retri	eval	• •	Kepler Data S	earch - s	search f	for an	d retrieve Kepl	ler Data.		pril 22, 2010	
MAST Service	s		Kepler Target	Search ·	find ta	rgets	on the Kepler	CCDs.	Та	epler Q3 Publi arget Data now s a tarfile.	
Data Release I	Notes	, •	General Searc	ch Inform	nation -	Inform	nation on sear	ch syntax.		pril 19, 2010	
	ata Reduction &			Light Cu	nvoe - li	oform	ation on quick	access to the		epler Data Rel now Available	
Data Reductio Analysis	n &	•	 Kepler Public Light Curves - Information on quick access to the public lightcurves. 							pril 09, 2010	
Documentation	ı	, •	 Kepler Data Release Notes - these notes describe the data, the processing, and the known deficiencies associated with each 							usty Interacting	g Galaxy RISE
Related Sites			release of Kepler data, including the most recent one. They are a						3	imulations [DIC	
			critical read for anyone wishing to draw scientifically valid								
Images			conclusions from the analysis or interpretation of Kepler data.							Missio	<u>ins</u>
Publications/N	ows		Pipeline Proce	essing P	apers -	Three	SPIE papers	presented at the		Hubble	
1 abrications/14	0113	·	Software and	Cyberint	rastruct	ture fo	or Astronomy (Conference (27-30		Hubble Legac	y Archive
Data Use Polic	y .		June 2010) de processing sys		ne main	comp	ponents of the	Kepler data		HSTonline	
Aakaawaadama	onto		processing sys	stern.						DSS	
Acknowledgme	ents	•	List of "False I							EPOCH	
			to conclude th					the science team		GALEX KEPLER	
				at some	uning on	00 000				KMM-OM	
		Kep	ler Mission D	Descrip	otion					BEFS (ORFEU	S)
		Keel						1 11		Copernicus	-,
			er, a NASA Strat centric orbit on I					n-trailing at a 105 square		EUVE	
		degre	ee region of the	sky in th	e const	tellatio	ons of Cygnus	and Lyra. The		FUSE	
		missi	ion's goal is to o	btain lor	ng-term,	, unfilt	tered, and pred	cise light curves of	f	GSC	
			100,000 cool s					of planets as is to study rapid	H	HPOL	
		Sinal	as the Earth. A	second	ary obje	Scuve	or the mission	is to study rapid		0.07	

Contraction and

Sec. 1

	Ceplo	er							. Com		
MAST S	TScl	Tools 👻	Mission_Se	earch 👻	Tutor	ial	Site Search			1	
Kepler Home	About K	epler Gett	ting Started	Regist	ration	Kepl	er Data Search	Kepler Target Search	FFI Search		
Data Sea	arch		http	o://ar	cchi	ve.	stsci.ed	lu/kepler/	NEW	<u>s</u>	
		Latest	News					_	June 15, 201	0:	
AQ	•	• Q4	4 liaht curve	data exi	pected t	to be a	available the e	nd of July.	Kepler Public D	ata Release	7
GO Program		Quick	•						May 14, 2010 EPOCh Data No at MAST		7/26/10
Search & Retrie	val 🕨	• <u>K</u> e	epler Data S	earch - s	earch f	for and	d retrieve Keple	er Data.	April 22, 201 Kepler Q3 Publi		P
MAST Services		• <u>Ke</u>	epler Target	Search ·	find ta	rgets	on the Kepler (CCDs.	Target Data nov as a tarfile.	v available	Peter
Data Release N	otes 🕨	• <u>G</u>	eneral Sear	ch Inform	nation -	Inform	nation on searc	ch syntax.	April 19, 201	0:	
Data Daduatian	•	Ke	epler Public	c Light Curves - Information on quick access to th					Kepler Data Re 4 now Available		Plavchan
Data Reduction	α ▶		blic lightcur						April 09, 201		ch
Documentation	•						notes describe cies associated		Dusty Interactin GADGET-SUNF Simulations [DI	RISE	an
Related Sites	•	re	lease of Kep	oler data,	, includi	ing the	e most recent o	one. They are a			
mages		itical read fo nclusions fr		Missio	ons -						
Publications/Net	ws 🕨							presented at the	Hubble		
							or Astronomy C conents of the l	onference (27-30	Hubble Legac	y Archive	
Data Use Policy	,		ocessing sy		le main	comp	Joneniis or the l	Repier data	HSTonline DSS		
Acknowledgmer	nts		at of "Ealood	Docitivos	" A lie	t of lie	ht curves show	ving planatory	EPOCH		
								the science team	GALEX		
							used the featur		KEPLER		
		Kenter			41				XMM-OM		
		Kepier	Mission [Jescrip	otion				BEFS (ORFEL	JS)	
		Kepler, a	NASA Stra	tegic mis	sion la	unche	d into an Earth	-trailing	Copernicus		
		heliocen	tric orbit on	March 6,	2009,	is des	igned to stare	at a 105 square	EUVE		
							ons of Cygnus		FUSE		
							ered, and preceriodic transits	ise light curves of	GSC		
								is to study rapid	HPOL		

1

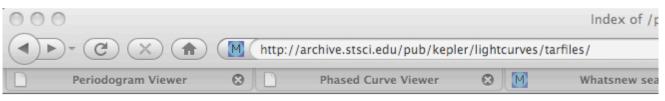
Kepler

MAST	ST	Scl	То	ols 👻	Mission_Se	arch 👻	Tuto	rial	Site Search		and the part of
Kepler Ho	ome	Abou	t Kepler	Getti	ng Started	Regis	tration	Kepl	er Data Search	Kepler Target Search	FFI Search
Dat	ta Sea	rch			Ali	tern	ativ	ve F	Retrieva	al Method	
FAQ			•							ghtcurves	
GO Progra	am				101	ru		NC	рісі гі	ginculves	
Search & Retrieval			• t	nave bee						a batch request. Thes ough anonymous ftp o	
MAST Ser			prowser.		• · ·						
Data Relea	ase No	otes								asy to download of the e of three groups of pu	
Data Redu Analysis	uction 8	8	•	 Dropped Target data Published Target data Other public data 							
Document	ation		+	As of June 15, 2010 the following data are available: Dropped targets for Quarters 0, 1, and							
Related Si	tes			3. Public data from Quarters 0 and 1.							
Images				These data are found in the area http://archive.stsci.edu/pub/kepler/lightcurves/tarfiles/							
Publication	ns/New	vs	1 8	and are also available via anonymous ftp on archive.stsci.edu							
Data Use F	Policy		C	cd /pub/kepler/lightcurves/tarfiles							
Acknowled	igment	ts	t	WGET Script We have also provided a set of wget scripts that when executed will download the public light curves. These scripts are located in the same directory as the tarfiles. Please read the README file. http://archive.stsci.edu/pub/kepler/lightcurves/tarfiles/							
					data are als ://archive.st					he directory through y	our browser
			(0007, 000	080129. L	Jnder e	ach of th	nese o		our digits of the Kepler e is a directory for eac ed.	
										ectory: <u>http://archive.s</u> nding to a different qu	

000					Index of /p
	M http:	://archive.stsci.edu/pub/kep	ler/light	curves/	'tarfiles/
Periodogram Viewer	8	Phased Curve Viewer	٢	M	Whatsnew sea

Index of /pub/kepler/lightcurves/tarfiles

	Name	Last modifie	<u>d</u>	Size	Description
٩	Parent Directory			-	
T	README	17-Jun-2010	13:32	1.8K	
<u></u>	dropped targets Q0Q1.tgz	14-Jun-2010	09:24	221M	
?	dropped targets Q2.wget script	16-Jun-2010	08:47	969K	
þ	dropped targets Q3.tar.gz	22-Apr-2010	11:35	1.0G	
?	dropped targets Q3.wget script	16-Jun-2010	08:44	863K	
?	keplerpublic 15jun2010.wget script	15-Jun-2010	17:35	34M	
Þ	public Q0.tgz	14-Jun-2010	20:31	1.2G	
?	public Q0.wget script	16-Jun-2010	08:42	8.3M	
þ	public Ql.tgz	14-Jun-2010	23:47	11G	
?	public Q1.wget script	16-Jun-2010	08:43	24M	



Index of /pub/kepler/lightcurves/tarfiles

	Name	Last modifie	d	Size	Description
٩	Parent Directory			-	
T	README	17-Jun-2010	13:32	1.8K	
- 🖞	dropped targets Q0Q1.tgz	14-Jun-2010	09:24	221M	
?	dropped targets Q2.wget script	16-Jun-2010	08:47	969K	
<u>b</u>	dropped targets Q3.tar.gz	22-Apr-2010	11:35	1.0G	
?	dropped targets Q3.wget script	16-Jun-2010	08:44	863K	
?	keplerpublic 15jun2010.wget script	15-Jun-2010	17:35	34M	
ð	public Q0.tgz	14-Jun-2010	20:31	1.2G	
?	public Q0.wget script	16-Jun-2010	08:42	8.3M	
h	public Q1.tgz	14-Jun-2010	23:47	11G	
?	public Q1.wget script	16-Jun-2010	08:43	24M	



http://archive.stsci.edu/kepler/data_search/search.php	
Phased Curve Viewer 😵 M Whatsnew search 😵 M KEPLER Search 😵 +	
MAST STScl Tools Mission_Search Tutorial Site Search	
Kepler Home About Kepler Getting Started Registration Kepler Data Search Kepler Target Search FFI Search	
Archive Status Kepler Data Search & Retrieval (Help) Field Descriptions	7/26/10
	Pe
Search Reset Clear Form	ter Pl
Target NameResolverRadius (arcmin)NED0.02Right AscensionDeclinationEquinoxJ2000J2000J2000	Peter Plavchan
Kepler ID Investigation ID 2Mass ID	
KEP Mag Target Type Release Date Image: Comparison of the second	
Teff Log_G	
User-specified field 1 Field Descriptions User-specified field 2 Field Descriptions Kepler ID Image: Specified field 3 Field Descriptions User-specified field 4 Field Descriptions Kepler ID Image: Specified field 3 Field Descriptions User-specified field 4 Field Descriptions Kepler ID Image: Specified field 3 Field Descriptions User-specified field 4 Field Descriptions	
Output Columns up ang_sep (') Content of the second	

hive.stsci.edu/kepler/da					-
Phased Curve Viewer	PLER	hatsnew search	Orial Site Search	KEPLER Search	
	out Kepler Getting Sta		Kepler Data Searc		FFI Search
<u>Archive Statu</u>	IS Kepler	[.] Data Sea	rch & Re	trieval <u>Fie</u>	(<u>Help</u>) Id Descriptions
S	earch	Reset		Clear Form	
	Target Name 7218 Right Ascension	_	Resolver IED 🗘		
Kepler	<u>ID</u>	Investiga	ition ID	<u>2Ma</u>	iss ID
KEP M	lag	Target ✓ Long Cadence		Relea	<u>se Date</u>
Teff	<u>.</u>	Log	<u>_G</u>		
Kepler	D	I Descriptions	Kepler I	fied field 4 Field D	escriptions escriptions
Output Colu Mark Kepler ID	mns up		ang_sep (') Kepler ID	Sort By: Reverse	



Mission Search / Missions / Contacts / STScl / MAST

Kepler Data Search Results

Display numeric columns graphically using VOPlot

number of rows returned = 1

Click on top column headers to sort the table on the column contents. Click on bottom column headers for more information about the data in that column.

\geq	Plot marked Light Curves Submit marked data for retrieval from STDADS Mark all Unmark all Mark public Mark all Unmark all Mark public Mark proprietary Unmark proprietary											
Mark	Kepler ID	Investigation ID	Dataset Name	Quarter	RA (J2000)	Dec (J2000)	Target Type	Actual Start Time	Actual End Time			
	757218	EX	KPLR000757218-2009131105131	0	19 24 19.34	+36 35 39.4	LC	2009-05-02 00:54:56	2009-05-11 17:51:31	200		
<u>Mark</u>	Kepler ID	Investigation ID	Dataset Name	<u>Quarter</u>	<u>RA</u> (J2000)	<u>Dec</u> (J2000)	<u>Target</u> <u>Type</u>	Actual Start Time	Actual End Time			
\geq	Plot marked Light Curves Submit marked data for retrieval from STDADS Mark all Unmark all Mark public Unmark public Mark proprietary Unmark proprietary											

7/26/10

Peter Playchan

Columns Hel

Edit Query



Mission Search / Missions / Contacts / STScl / MAST

Kepler Data Search Results

Display numeric columns graphically using VOPlot

number of rows returned = 1

Click on top column headers to sort the table on the column contents. Click on bottom column headers for more information about the data in that column.

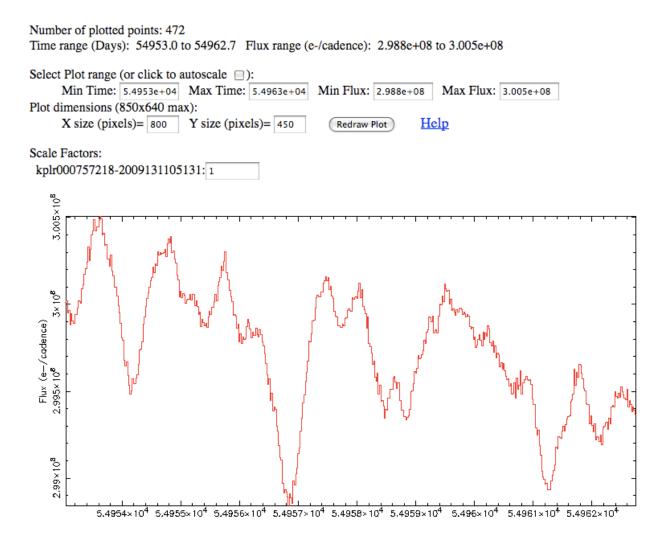
	Plot marked Light Curves Submit marked data for retrieval from STDADS (Mark all) Unmark all) (Mark public) (Unmark proprietary) (Unmark proprietary)											
	Mark	Kepler ID	Investigation ID	Dataset Name	RA (J2000)	Dec (J2000)	Target Type	Actual Start Time	Actual End Time			
		757218	EX	KPLR000757218-2009131105131	0	19 24 19.34	+36 35 39.4	LC	2009-05-02 00:54:56	2009-05-11 17:51:31	200	
	<u>Mark</u>	Kepler ID	Investigation ID	Dataset Name	Quarter	<u>RA</u> (J2000)	<u>Dec</u> (J2000)	<u>Target</u> <u>Type</u>	Actual Start Time	Actual End Time		
(Plot marked Light Curves Submit marked data for retrieval from STDADS Mark all Unmark public Unmark proprietary Unmark all Mark public Mark proprietary											

7/26/10

Peter Playchan

Columns Hel

Edit Query

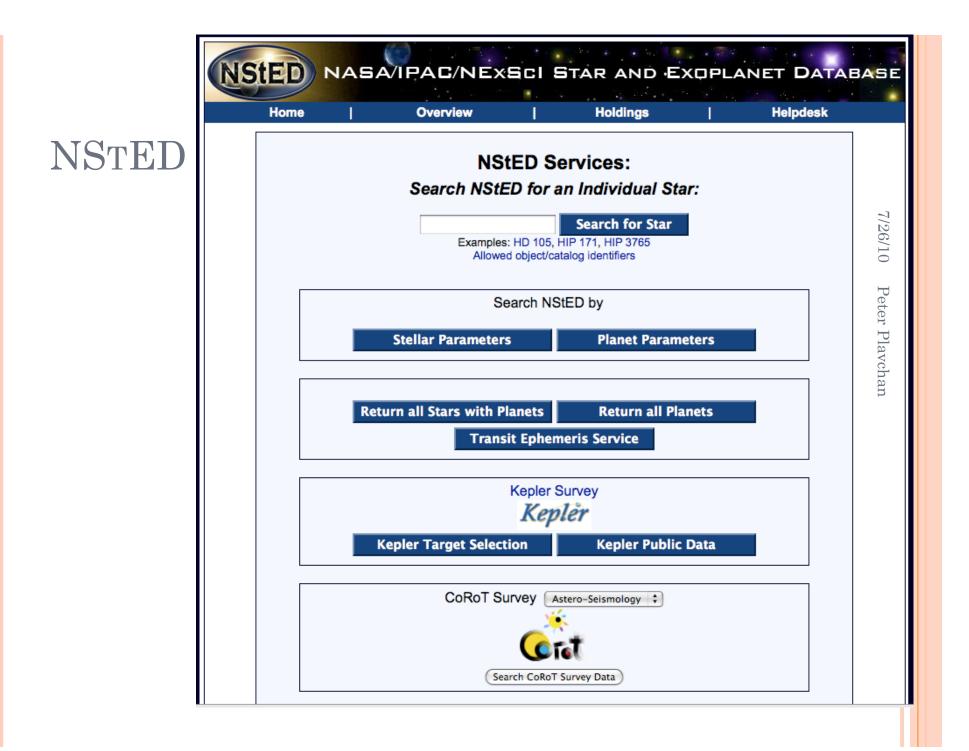


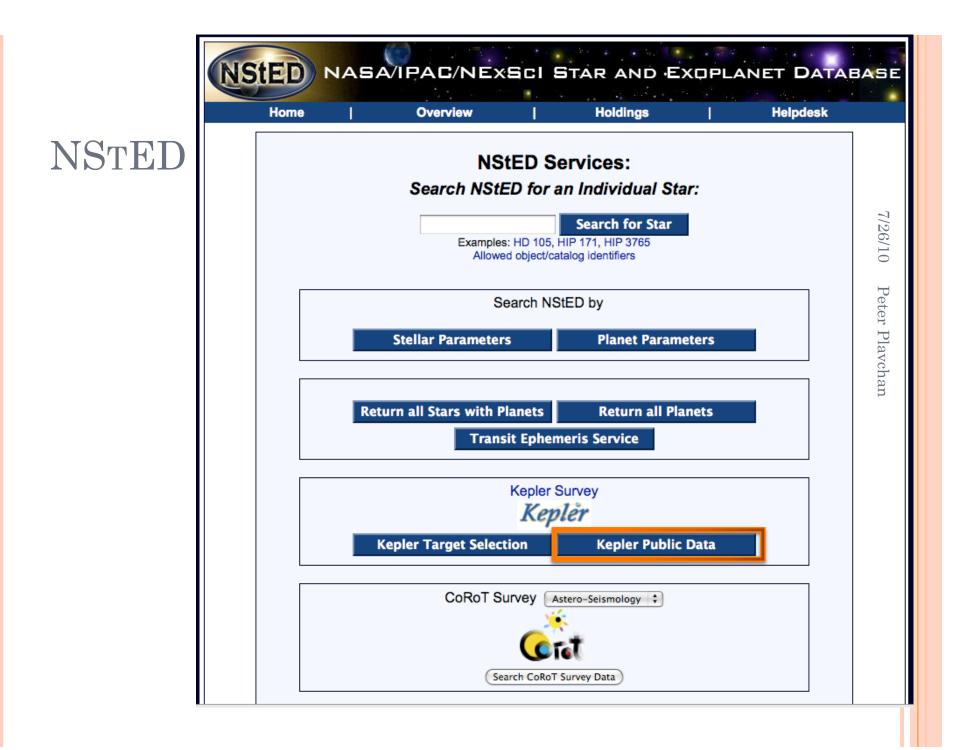
Please note that Target Pixel Data and Focal Plane Characterization Files are not currently available, but will be in the near future.

NEW Important Downtime Message NEW

1 dataset (1 public, 0 proprietary) marked.

Archive Username		Archive Password
Delivery options		Destination (if y
• FTP: FTP the data to the destination shown		Hostname
Use sftp (OpenSSH v2)		Directory
 STAGE: Put the data onto the Archive staging disk* DVD: Send the data to me on DVD. 		Username
 <u>DVD: Send the data to me on DVD.</u> <u>CD: Send the data to me on CD-R.</u> 		Password
 <u>Compress the files using gzip.</u> *<u>Current staging disk capacity</u>: 33% full (1299 gigabytes available). 		
 ✓ Light Curves □ Light Curves and Target Pixel Data □ Light Curves, Target Pixel Data and Focal Plane Characterization Files 		
Send retrieval request to ST-DADS		Reset form to default values
To select specific file extensions, use the input fields below.	To override the above defa	ults:



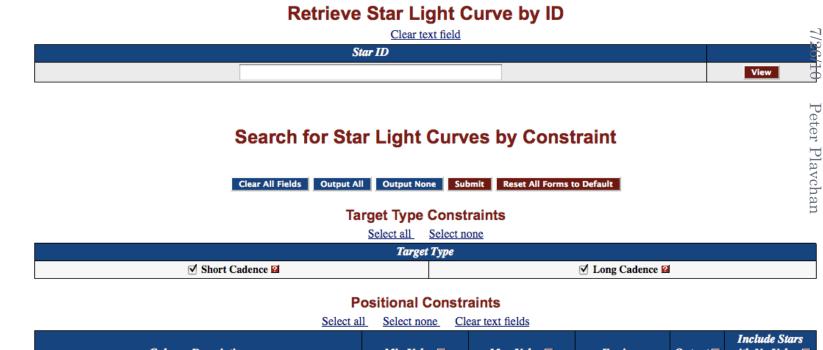




NStED: Exo-Planet Transit Survey Kepler Search

NStED provides access to the public Kepler light curves as they are released to the community. The primary mission archive to all Kepler data is provided by MAST at STScI. In addition to the public light curves, NStED also serves a Target Selection Catalog which can be used to explore potential targets within the Kepler field.

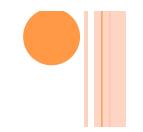
We recommend the Firefox, Safari or Chrome browsers. IE users may see intermittent query failures, which can be resolved by resubmitting the query.



Column Description	Min Value 🛽	Max Value 🛽	Equinox	Output 🛽	include Stars with No Value 2
Right Ascension (decimal degrees or sexagesimal)			J2000		
Declination (decimal degrees or sexagesimal)			J2000		

Photometric Constraints

Select all Select none Clear text fields

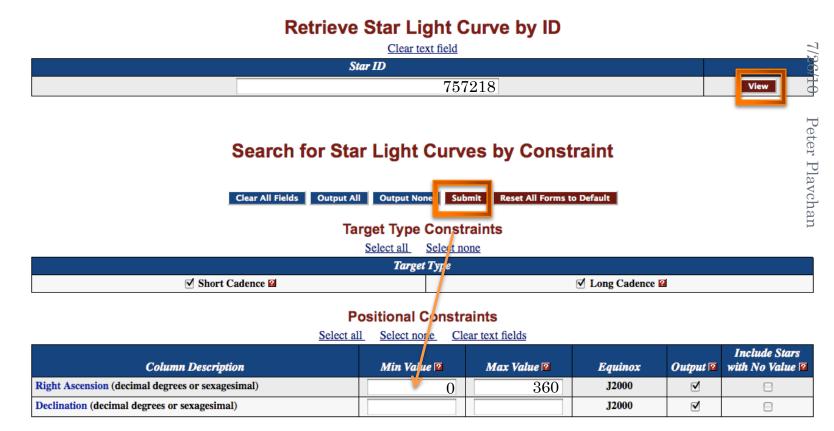




NStED: Exo-Planet Transit Survey Kepler Search

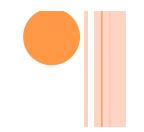
NStED provides access to the public Kepler light curves as they are released to the community. The primary mission archive to all Kepler data is provided by MAST at STScI. In addition to the public light curves, NStED also serves a Target Selection Catalog which can be used to explore potential targets within the Kepler field.

We recommend the Firefox, Safari or Chrome browsers. IE users may see intermittent query failures, which can be resolved by resubmitting the query.



Photometric Constraints

Select all Select none Clear text fields



GRed magnitude		magnitude	◄	
D51 magnitude		magnitude	◄	
J magnitude		magnitude	◄	
H magnitude		magnitude	◄	
Ks magnitude		magnitude	✓	
Kepler magnitude	16	magnitude	✓	

Time Constraints

Select all Select none Clear text fields

Column Description	Min Value 🛽	Max Value 🛽	Unit	Output 🛽	Include Stars with No Value			
Start Date Coverage (modified Julian date)			days		ete:			
End Date Coverage (modified Julian date)			days		r P			
Light Curve Constraints								
Select al	ll Select none Cle	ear text fields			an			

Light Curve Constraints

Select all Select none Clear text fields

Column Description	Min Value <table-cell></table-cell>	Max Value 🛛	Unit	Output 🛙	Include Stars with No Value 😰
Number of points in light curve				✓	
Mean of light curve			electrons/cadence	◄	
1 Sigma rms dispersion of light curve			electrons/cadence	◄	
Chisquared about the median light curve value				◄	
Number of points in light curve beyond 5-sigma of median value				◄	
Fraction of points in light curve beyond 5-sigma of median value					

Stellar Property Constraints

Select all Select none Clear text fields

Column Description	Min Value 🛽	Max Value 🛽	Unit	Output 🛽	Include Stars with No Value 🛽
E(B-V)			magnitude		
g-r Color			magnitude	✓	

7/26/10



Result Table (6 Time Series)

Download all results: IPAC ASCII format table Download all light curves: Download scripts

Note:

• Click a column name to display the parameter help file if it is available.

• 1000 is the maximum number of rows to be displayed.

	HI I TO 6 H								
Cntr	<u>Star ID</u>	<u>Target Type</u>	<u>RA</u> J2000	<u>Dec</u> J2000	<u>Start Time</u>	<u>End Time</u>	<u>g mag</u>	<u>r mag</u>	<u>i</u>
			h m s	0111	day	day	mag	mag	n
1	6117602 (Plot Time Series) (Compute Periodogram)	long cadence	19h 19m 41.07s	41d 27m 48.79s	54964.511796	54997.983275	17.179	16.069	15
2	2437452 (Plot Time Series) (Compute Periodogram)	long cadence	19h 20m 54.28s	37d 45m 34.70s	54964.511952	54997.983555	17.610	16.943	16
3	2297729 (Plot Time Series) (Compute Periodogram)	long cadence	19h 21m 00.47s	37d 38m 22.52s	54964.511956	54997.983564	17.309	16.282	15
4	8496834 (Plot Time Series) (Compute Periodogram)	long cadence	19h 29m 54.63s	44d 35m 27.53s	54964.511457	54997.982905	17.282	16.435	16
5	9838975 (Plot Time Series) (Compute Periodogram)	long cadence	19h 40m 08.05s	46d 36m 00.54s	54964.511200	54997.982644	16.825	16.103	15
6	9033543 (Plot Time Series) (Compute Periodogram)	long cadence	19h 43m 07.30s	45d 18m 09.79s	54964.511215	54997.982725	17.588	16.318	15

NSTED NASA	PAC/NEX	GCI STAR AND EXOPL	ANET DATAB	ASE	
Home	l l	Overview	I	Holdings	l

Result Table (6 Time Series)

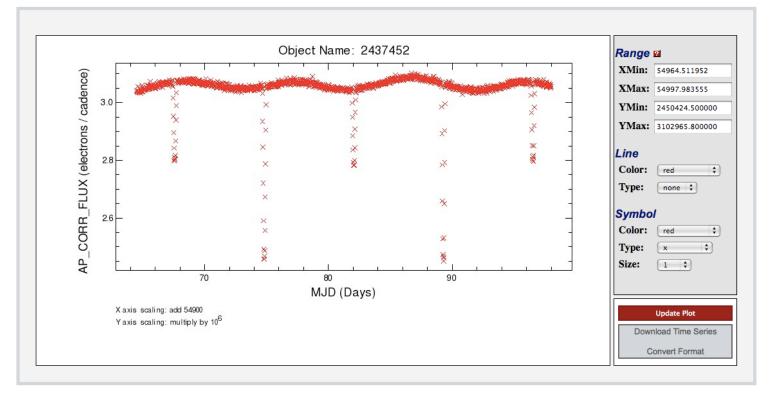
Download all results IPAC ASCII format table Download all light curves: Download scripts

Note:

• Click a column name to display the parameter help file if it is available.

• 1000 is the maximum number of rows to be displayed.

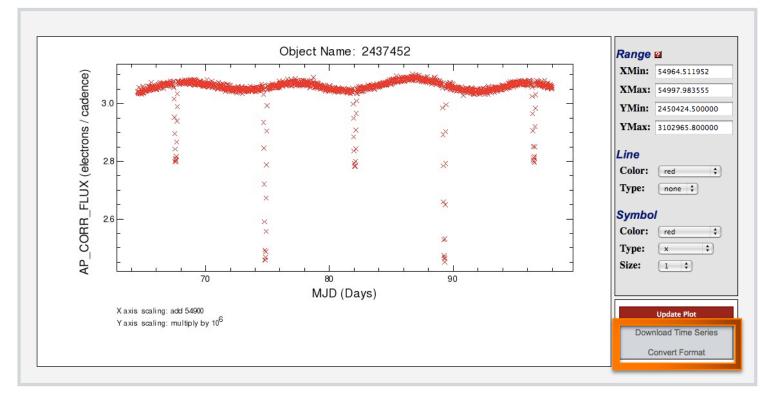
	HI I TO 6 H								
Cntr	<u>Star ID</u>	<u>Target Type</u>	<u>RA</u> J2000	<u>Dec</u> J2000	<u>Start Time</u>	<u>End Time</u>	g mag	<u>r mag</u>	<u>i</u>
			h m s	011	day	day	mag	mag	n
1	611760 (Plot Time Series) (Compute Periodogram)	long cadence	19h 19m 41.07s	41d 27m 48.79s	54964.511796	54997.983275	17.179	16.069	15
2	2437452 (Plot Time Series) (Compute Periodogram)	long cadence	19h 20m 54.28s	37d 45m 34.70s	54964.511952	54997.983555	17.610	16.943	16
3	2297729 (Plot Time Series) (Compute Periodogram)	long cadence	19h 21m 00.47s	37d 38m 22.52s	54964.511956	54997.983564	17.309	16.282	15
4	8496834 (Plot Time Series) (Compute Periodogram)	long cadence	19h 29m 54.63s	44d 35m 27.53s	54964.511457	54997.982905	17.282	16.435	16
5	9838975 (Plot Time Series) (Compute Periodogram)	long cadence	19h 40m 08.05s	46d 36m 00.54s	54964.511200	54997.982644	16.825	16.103	15
6	9033543 (Plot Time Series) (Compute Periodogram)	long cadence	19h 43m 07.30s	45d 18m 09.79s	54964.511215	54997.982725	17.588	16.318	15



NStED Light Curve Viewer

Compute Periodogram

7/26/10 Peter Plavchan

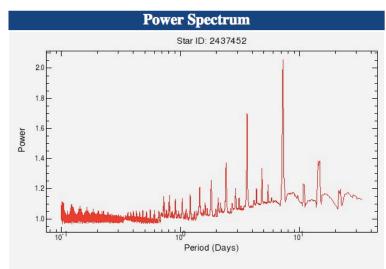


NStED Light Curve Viewer

Compute Periodogram

7/26/10 Peter Plavchan

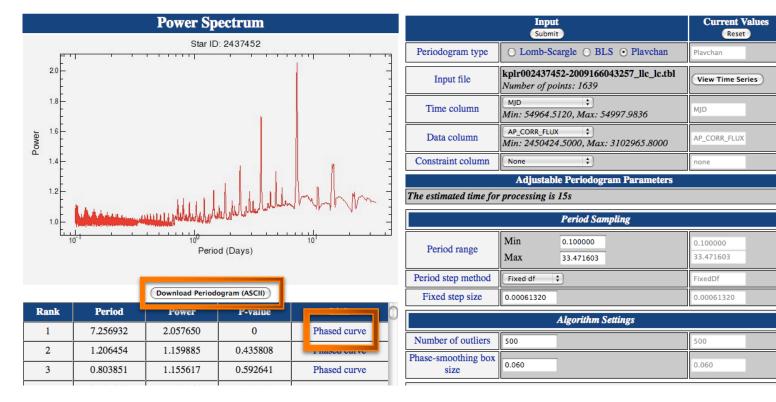
NStED Periodogram Service



	Download Periodogram (ASCII)										
Rank	Period	Power	P-value	Link							
1	7.256932	2.057650	0	Phased curve							
2	1.206454	1.159885	0.435808	Phased curve							
3	0.803851	1.155617	0.592641	Phased curve							

	Input Submit	Current Values Reset
Periodogram type	○ Lomb-Scargle ○ BLS ⊙ Plavchan	Plavchan
Input file	kplr002437452-2009166043257_llc_lc.tbl Number of points: 1639	View Time Series
Time column	(MJD 🛟) Min: 54964.5120, Max: 54997.9836	MJD
Data column	AP_CORR_FLUX \$ Min: 2450424.5000, Max: 3102965.8000	AP_CORR_FLUX
Constraint column	None	none
	Adjustable Periodogram Parameters	
The estimated time for	processing is 15s	
	Period Sampling	
Period range	Min 0.100000 Max 33.471603	0.100000 33.471603
Period step method	Fixed df 🛟	FixedDf
Fixed step size	0.00061320	0.00061320
	Algorithm Settings	
Number of outliers	500	500
Phase-smoothing box size	0.060	0.060

NStED Periodogram Service



NASA/IPAC/NEXSCI STAR AND EXOPLANET DATABASE

CoRoT

StED

• NStED is the official US portal for CoRoT data:

- http://nsted.ipac.caltech.edu
- Serves FITS light curves (ASCII coming soon)
- IAS Data and Operations Center:
 - Binary FITS table
 - http://idoc-corotn2-public.ias.u-psud.fr/index.jsp
- CoRoT archive at LAEFF:
 - Binary FITS table & ASCII
 - <u>http://sdc.laeff.inta.es/corotfa/jsp/frontpage.jsp</u>

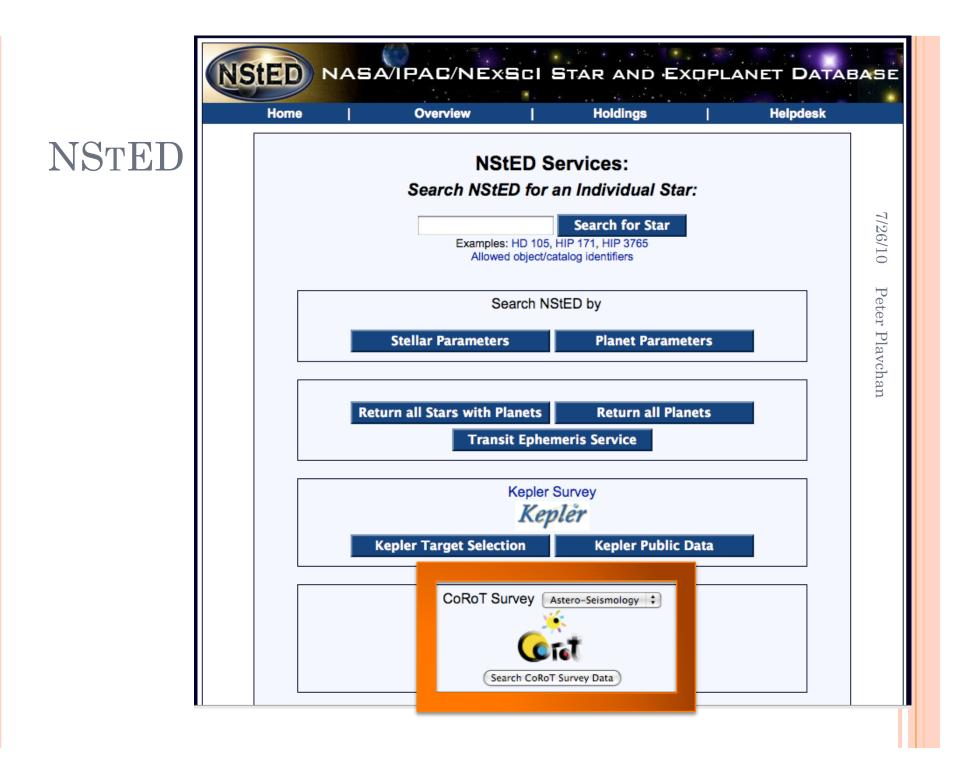
CoRoT has two channels:

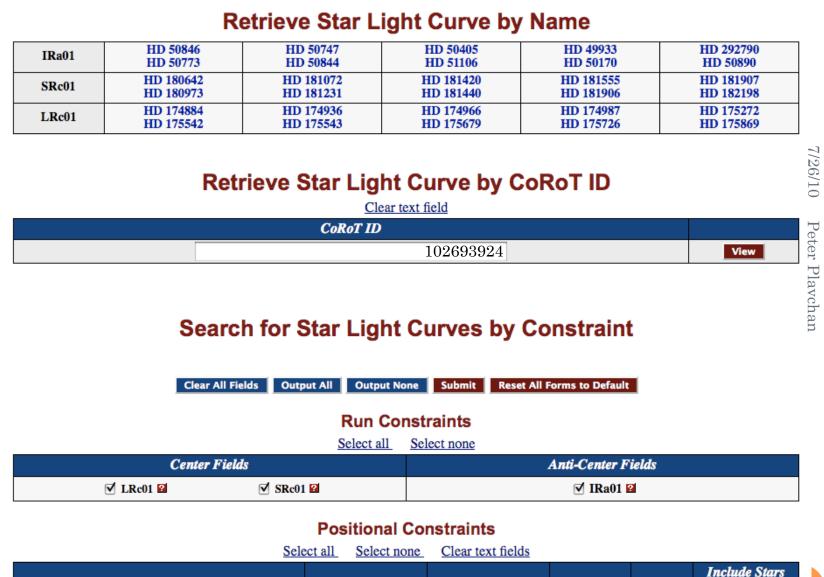
Asteroseismology (~10 targets/run) & Exoplanet (~10k targets/run)

Exoplanet light curves have two categories:

CHRomatic & MONochromatic, in separate binary FITS table files Asteroseismology light curves come in three flavors:

RAW, HELiocentric, & HELiocentric with REGularized timesampling, all in one binary FITS file with 3 table extensions





Column Description	Min Value 🛽	Max Value 🛽	Equinox	Output 🛽	Include Stars with No Value 2
Right Ascension (decimal degrees or sexagesimal)			J2000	◄	
Declination (decimal degrees or sexagesimal)			J2000	₹	

NStED Light Curve Viewer

Object Name: 102693924

Ob	ject Characteristics		Photometry						
CoRoT ID:	102693924	Filter	Apparent Magnitude						
Channel:	Exoplanet (Monochromatic)	В	17.2080						
Run:	IRa01	v	16.2880						
Telescope:	COROT	R	15.8890						
CCD Half:	E1L	I	15.3700						
RA:	06h 43m 31.20s								
Dec:	-00d 40m 24.89s	Light C	urve Characteristics						
Contamination Factor:	0.131313	Start HJD:	2007-02-03T13:05:53.000						
Color Temperature:	4840.00	End HJD:	2007-04-02T07:01:58						
Spectral Type:	G4	Exposure Time:	512						
Luminosity Class:	V	Mean White Flux:	20320.1						
		RMS White Flux:	283.905						
		Number of hot pixels:	0						

Dow	lioads	
Current Time Series file:	FITS Data (This is an ftp location, Right-Click and Save-As)	
IRa01 summary:	IPAC ASCII format table	
IRa01 light curves:	Download scripts	

Note on Plots

CoRoT dates are relative to Jan 1st, 2000 12:00:00 PM (JD = 2451545.0). See the documentation for more details.

Direct link to periodogram for CoRoT data coming soon...



CoRoT N2 Public Archive

CoRoT Archive

There are two ways to retrieve the data:

Run SRa03

Run LRc05

→ BACK TO HOME

- DOCUMENTATION
- NEWS ARCHIVE
- COMPLETE RUN DOWNLOAD
- detailed search in the database: the links on the left part of this page will lead you to the different datasearch interfaces for the two channels of the instrument: Asteroseismology and Exoplanet search.

simple download of a whole set of data for a given run (last version available): by the COMPLETE RUN DOWNLOAD link.

Here is the CoRoT run timeline. You can drag it horizontally or use your mouse-wheel to visualize each run. Click on any event for more details.

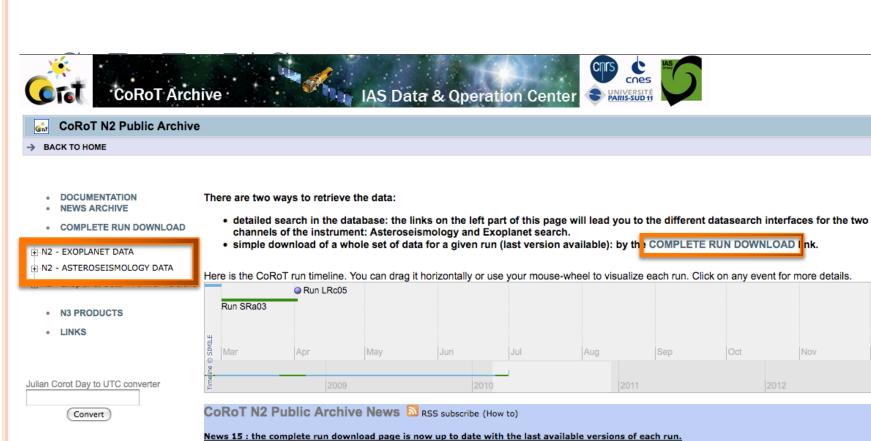
IAS Data & Operation Center

cnes

PARIS-SUD 11

- N2 EXOPLANET DATA
- N2 ASTEROSEISMOLOGY DATA
- - N3 PRODUCTS





July 13th, 2010

News 14 : a new version (2.1) of exo data of the run SRc01 has been released. The former versions are still available through the link "N2 - Exoplanet Data - Former versions".

Dec

July 12th, 2010

News 13 : release of the astero channel data set for the run LRc02 (version 1.8). July 05th, 2010

July Usth, 20

Some documentation is also available through the link on the left.

The site is optimized for Mozilla Firefox browser. You can download it here : www.mozilla.com

COROT - IAS



BACK TO HOME

You can retrieve the N2 data by downloading a whole set for a given run (last version available) :

Туре	Run IRa01	Run LRc01	Run SRc01	Run LRa01	Run SRa01	Run LRc02	Run SRa02
LIGHT CUIVES OF THE ASTERO CHATTEL TANK START		here (251MB)					here (56MB)
IVIOLOCHIOHAUGIUHLCUIVES OF HE EXU CHAMPELENZ STAR WOND		here (6,0GB)					here (1,1GB)
Chromatic light curves of the exo channel tenz STAK CHK	here (5,9GB)		here (1,6GB)				here (3,3GB)
IENZ WINDEGUNFTUR IIES OF THE EXD CHATTER		here (46MB)					here (42MB)

Corot Exoplanet Public N2 data

Available products			Search
Chromatic light curves Oversampled light curves (32s) Light curves from imagettes (32s) N2 context □	AND/OR AND/OR	Monochromatic light curves Regular sampling light curves (512s) Windescriptor □	7/26/10
Observational informations			Search
Start date	(DD-MM-YYYY)	End date	от Ріат
Corot ID	Use semi-colo comma or blar character as X All ^{separators}		(DD-MM-YYYY) Playchan
Magnitude from (>=)		Magnitude to (=<)	
Right ascension from		Right ascension to	
Declination from		Declination to	
Magnitude difference (B-V) from		Magnitude difference (B-V) to	
Spectral type from		ders is based on a SED or isochrone analysis of multi-co especially for faint stars and concerning luminosity class	
Spectral type to 📃 🗘	For more information please read Dele	uil et al. and if needed please contact Claire Moutou.	
Luminosity class 📃 🗘			
Long Run(and initial Run) 🗹		Cei	nter 🗹
Short run 🗹 Run 💭 🗘)	Antice	nter 🗹
Selection based on the class of variability of	the star		Search

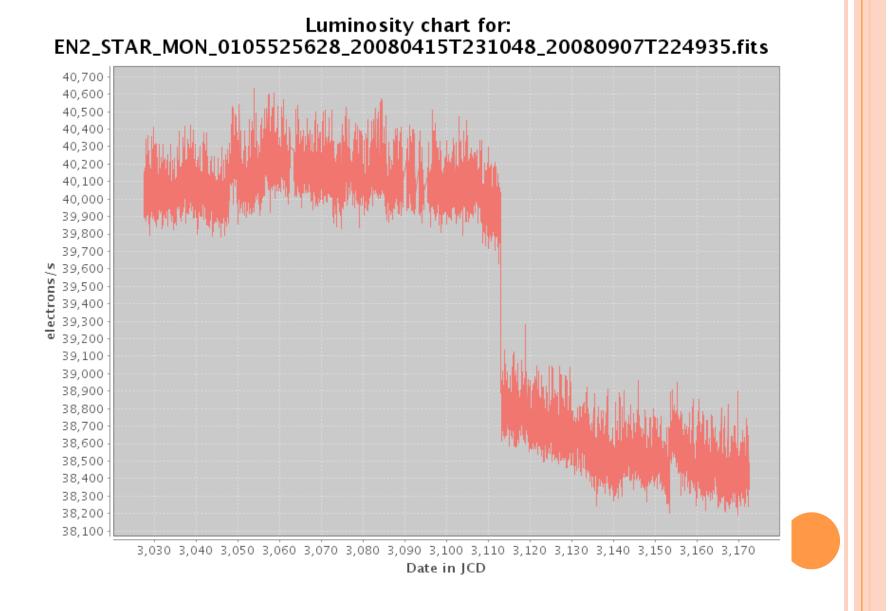
Corot Exoplanet Public N2 data

Available products			Search
Chromatic light curves 🗹	AND/OR	Monochromatic light curves 🗹	
Oversampled light curves (32s)	AND/OR	Regular sampling light curves (512s)	
Light curves from imagettes (32s)		Windescriptor	7/26/10
N2 context			
Observational informations			Search Peter
Start date	(DD-MM-YYYY)	End date	рани (DD-MM-YYYY)
Corot ID	Use semi-colo comma or blar character as X All		De-MM-YYYY) Playchan
Magnitude from (>=)		Magnitude to (=<)	
Right ascension from		Right ascension to	
Declination from		Declination to	
Magnitude difference (B-V) from		Magnitude difference (B-V) to	
		ders is based on a SED or isochrone analysis of multi-co especially for faint stars and concerning luminosity class	
Spectral type to F	or more information please read Dele	uil et al. and if needed please contact Claire Moutou.	
Luminosity class			
Long Run(and initial Run) 🗹		Cer	iter 🗹
Short run 🔽		Anticer	iter 🗹
Run 🗘			
Selection based on the class of variability of the	star		Search

	S Data	a & Op	eratior	i Center		s ff							
e ⊷ Search result													
→ BACK TO CRITERIA													
 B List of datas in search result: 69489 data(s) in 1 dataset(s) Julian Corot Day to UTC converter Convert Columns Choic Columns Choic Download (Zip) 													
Select currently displayed datafiles All Select all data of this dataset Unselect all data of this dataset (69489 datas(s) for this dataset)													
1 2 3 4 5 6 > >> Page 1/695													
File name 🔿	Start 👌	End 🔿	Corot ID ⇒	Magnitude 🔿	Right ascension ⇒	Declination 🔿	Magnitude difference ⇒ (B-V)						
EN2_STAR_CHR_0105664870_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105664870	14.018	280.436	7.32662	1.623						
EN2_STAR_MON_0105754134_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105754134	15.524	280.57	6.5863	1.674						
EN2_STAR_MON_0105525628_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105525628	15.352	280.211	5.97483	1.638						
EN2_STAR_MON_0105617112_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105617112	15.295	280.362	7.33506	0.665						
EN2_STAR_CHR_0105276526_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105276526	12.553	279.861	6.76779	1.825						
EN2_STAR_CHR_0105233073_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105233073	13.128	279.789	7.03947	1.942						
EN2_STAR_CHR_0105294638_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105294638	13.838	279.887	7.09702	1.92						
EN2_STAR_CHR_0105351557_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105351557	13.412	279.968	7.6442	1.848						
EN2_STAR_CHR_0105369434_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105369434	13.493	279.993	6.6244	2.04						
EN2_STAR_CHR_0105851077_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105851077	13.667	280.712	6.475	2.184						
EN2_STAR_CHR_0105872742_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105872742	14.406	280.747	7.17527	2.192						
EN2_STAR_MON_0105637050_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105637050	15.803	280.394	6.23713	1.888						
EN2_STAR_MON_0106019547_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	106019547	15.791	281.077	6.72749	2.047						
□ < /> EN2_STAR_CHR_0105514947_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105514947	13.8	280.196	6.51107	1.978						

CoRoT Archive	S Data	a & Op	eratior	n Center		TÉ							
Gt. Search result													
→ BACK TO CRITERIA													
 List of datas in search result: 69489 data(s) in 1 dataset(s) Dataset Corot Exoplanet Public N2 (69489 data(s)) 													
Select currently displayed datafiles All Select all data of this dataset Unselect all data of this dataset (69489 datas(s) for this dataset)													
1 2 3 4 5 6 ► ► Page 1/695	Start	End 👌	Corot ⇒	Magnitude 🔿	Right ascension ⇒	Declination 🚔	Magnitude difference (B-V)						
E I2_STAR_CHR_0105664870_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105664870	14.018	280.436	7.32662	1.623						
EN2_STAR_MON_0105754134_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105754134	15.524	280.57	6.5863	1.674						
EN2_STAR_MON_0105525628_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105525628	15.352	280.211	5.97483	1.638						
EN2_STAR_MON_0105617112_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105617112	15.295	280.362	7.33506	0.665						
EN2_STAR_CHR_0105276526_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105276526	12.553	279.861	6.76779	1.825						
EN2_STAR_CHR_0105233073_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105233073	13.128	279.789	7.03947	1.942						
EN2_STAR_CHR_0105294638_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105294638	13.838	279.887	7.09702	1.92						
EN2_STAR_CHR_0105351557_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105351557	13.412	279.968	7.6442	1.848						
EN2_STAR_CHR_0105369434_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105369434	13.493	279.993	6.6244	2.04						
EN2_STAR_CHR_0105851077_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105851077	13.667	280.712	6.475	2.184						
EN2_STAR_CHR_0105872742_20080415T231048_20080907T225807.fits	15-04-2008	07-09-2008	105872742	14.406	280.747	7.17527	2.192						
EN2_STAR_MON_0105637050_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105637050	15.803	280.394	6.23713	1.888						
EN2_STAR_MON_0106019547_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	106019547	15.791	281.077	6.72749	2.047						
EN2_STAR_CHR_0105514947_20080415T231048_20080907T224935.fits	15-04-2008	07-09-2008	105514947	13.8	280.196	6.51107	1.978						

Light Chart





An error has occured when invoking service

See Error Detail

javax.servlet.jsp.JspException: ServletException in '/jsp/common/include/footer.jsp': javax.servlet.jsp.JspException: No getter method for property hmiMessage of bean currentException javax.servlet.jsp.JspException: ServletException in '/jsp/common /include/footer.jsp': javax.servlet.jsp.JspException: No getter method for property hmiMessage of bean currentException at org.apache.struts.taglib.tiles.InsertTag\$InsertHandler.doEndTag(InsertTag.java:919) at org.apache.struts.taglib.tiles.InsertTag.doEndTag(InsertTag.java:458) at org.apache.jsp.jsp.tiles.layouts.sitools_jsp. jspx meth tiles_005finsert_005f4(sitools_jsp.java:405) at org.apache.jsp.jsp.tiles.layouts.sitools jsp. jspx meth html 005fhtml 005f0(sitools jsp.java:195) at org.apache.isp.isp.tiles.layouts.sitools isp. ispService(sitools isp.iava:94) at org.apache.jasper.runtime.HttpJspBase.service(HttpJspBase.java:70) at javax.servlet.http.HttpServlet.service(HttpServlet.java:717) at org.apache.jasper.servlet.JspServletWrapper.service(JspServletWrapper.java:377) at org.apache.jasper.servlet.JspServlet.serviceJspFile(JspServlet.java:313) at org.apache.jasper.servlet.JspServlet.service(JspServlet.java:260) at javax.servlet.http.HttpServlet.service(HttpServlet.java:717) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.java:290) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:206) at org.apache.catalina.core.ApplicationDispatcher.invoke(ApplicationDispatcher.java:646) at org.apache.catalina.core.ApplicationDispatcher.doInclude(ApplicationDispatcher.java:551) at org.apache.catalina.core.ApplicationDispatcher.include(ApplicationDispatcher.java;488) at org.apache.jasper.runtime.JspRuntimeLibrary.include(JspRuntimeLibrary.java:968) at org.apache.jasper.runtime.PageContextImpl.include(PageContextImpl.java:621) at org.apache.struts.tiles.TilesUtilImpl.doInclude(TilesUtilImpl.iava:99) at org.apache.struts.tiles.TilesUtil.doInclude(TilesUtil.java:135) at org.apache.struts.taglib.tiles.InsertTag.doInclude(InsertTag.java:756) at org.apache.struts.taglib.tiles.InsertTag\$InsertHandler.doEndTag(InsertTag.java:888) at org.apache.struts.taglib.tiles.InsertTag.doEndTag(InsertTag.java:458) at org.apache.jsp.jsp.error_jsp._jspx_meth_tiles_005finsert_005f0(error_jsp.java:128) at org.apache.jsp.isp.error jsp. jspService(error jsp.java:82) at org.apache.jasper.runtime.HttpJspBase.service(HttpJspBase.java:70) at avax.servlet.http.HttpServlet.service(HttpServlet.java:717) at org.apache.jasper.servlet.JspServletWrapper.service(JspServletWrapper.java:377) at org.apache.jasper.servlet.JspServlet.serviceJspFile(JspServlet.java:313) at org.apache.jasper.servlet.JspServlet.service(JspServlet.java:260) at javax.servlet.http.HttpServlet.service(HttpServlet.java:717) at org.apache.catalina.core.ApplicationFilterChain.internalDoFilter(ApplicationFilterChain.iava;290) at org.apache.catalina.core.ApplicationFilterChain.doFilter(ApplicationFilterChain.java:206) at org.apache.catalina.core.ApplicationDispatcher.invoke(ApplicationDispatcher.java:646) at org.apache.catalina.core.ApplicationDispatcher.processRequest(ApplicationDispatcher.java:436) at org.apache.catalina.core.ApplicationDispatcher.doForward(ApplicationDispatcher.java:374) at org.apache.catalina.core.ApplicationDispatcher.forward(ApplicationDispatcher.java:302) at org.apache.struts.action.ReguestProcessor.doForward(ReguestProcessor.java:1054) at org.apache.struts.tiles.TilesRequestProcessor.doForward(TilesRequestProcessor.java:259) at org.apache.struts.action.RequestProcessor.processForwardConfig(RequestProcessor.java:386) at org.apache.struts.tiles.TilesReguestProcessor.processForwardConfig(TilesReguestProcessor.java:314) at

Cord Archive - Homepage Teriodogram Viewer Phased Curve Viewer Off Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer Office Coroct Archive - Homepage Teriodogram Viewer Office Curve Viewer O				
90 http://sdc.laeff.inta.es/corotfa/jsp/frontpage.jsp Periodogram Viewer Periodogram Viewer 90 corot Archive - Homepage • Cheffe corot archive Periodogram Viewer • Periodogram Viewer </th				
THE COROT PUBLIC ARCHIVE AT LAEFF				
This data server provides access to the COROT Archive at LAEFF.				
Resources				
 ► News ► System Overview ► Help Desk 				
The COPOT Bublic Archive has been developed in the framework of the Spanish Virtual Observatory proj	act (AVA 2008 02156). The system is maintained by			

The COROT Public Archive has been developed in the framework of the Spanish Virtual Observatory project (AYA 2008-02156). The system is maintained by the Data Archive Unit of the CAB (CSIC -INTA).

If you use COROT data in your research, please include the following acknowledgement in any resulting publications: "Based on data from the COROT Archive at LAEFF".



The COROT Public Archive has been developed in the framework of the Spanish Virtual Observatory project (AYA 2008-02156). The system is maintained by the Data Archive Unit of the CAB (CSIC -INTA).

If you use COROT data in your research, please include the following acknowledgement in any resulting publications: "Based on data from the COROT Archive at LAEFF".

	THE COROT PUE	LIC ARCHIVE AT LAEF	FF
Run: All Data Type Asteroseismology Light curves		omatic light Curves 🗹 c Light Curves 🗹	
Search			
Corot ID:	Object ID:	Coordinates List:	Radius: deg
			*Coordinates Format: deg deg or hh:mm:ss dd:mm:ss
* 'Object Id' is used only for ast	teroseismology data.	,	
Light Curve Filter Criteria			
Obs Date:	From:	• To: -	• •
	Vmag: -	B-V:	-
Spectype:	Lumclass:	(Only for exc ACT [Activi BCEP [Beta BE [Variabl CLCEP [Clas	class (Important note): oplanet data) ty] i-Cephei stars] le Be-stars] ssical Cepheids] cally peculiar stars]



THE COROT PUBLIC ARCHIVE AT LAEFF

Found 59278 records, displaying page 1 of 1186

Retrieval Format: zip 🗘 Mark Fits: 📄 Mark ASCII: RAW: 📄 HEL: 📄 HELREG: 📄

Retrieve Marked Data

ASTEROSEISMOLOGY

RUN	COROT ID	OBJECT ID	RA(J2000)	DE(J2000)	START DATE	END DATE	SpType	LUM	VMAG	B-V	TEFF	GRAVITY	METAL	BROWSE	FETC	H/MARK	FETC	H/MARK
LRa01	1	HD 49808	102.555	0.13704	2007-10-18	2008-03-03	F0	v	7.98	0.38	7117.0	3.6	-0.19	FITS	FITS		raw hel helreg	
LRa01	14	HD 50064	102.892	0.29735	2007-10-18	2008-03-03	B6	1	8.29	0.81	27633.0			FITS	FITS		raw hel helreg	
LRa01	18	HD 49385	102.048	0.30497	2007-10-18	2008-03-03	G0		7.89	0.47	6117.0	3.89	-0.47	FITS	FITS		raw hel helreg	
LRa01	20	HD 49933	102.708	-0.54088	2007-10-18	2008-03-03	F2	v	5.77	0.39	6467.0	4.27	-0.37	FITS	FITS		raw hel helreg	



THE COROT PUBLIC ARCHIVE AT LAEFF

Found 59278 records, displaying page 1 of 1186

Retrieval Format: zip 🛟

Mark Fits: 📄 Mark ASCII: RAW: 📄 HEL: 📄

Retrieve Marked Data

Java plotting tool

ASTEROSEISMOLOGY

RUN	COROT ID	OBJECT ID	RA(J2000)	DE(J2000)	START DATE	END DATE	SpType	LUM	VMAG	B-V	TEFF	GRAVITY	MET	BROWS	FETCH	/MARK	FETC	H/MARK
LRa01	1	HD 49808	102.555	0.13704	2007-10-18	2008-03-03	F0	v	7.98	0.38	7117.0	3.6	-0.1	MTS	FITS	_	raw hel helreg	
LRa01	14	HD 50064	102.892	0.29735	2007-10-18	2008-03-03	B6	I	8.29	0.81	27633.0		-	FITS	FITS	_		
LRa01	18	HD 49385	102.048	0.30497	2007-10-18	2008-03-03	G0		7.89	0.47	6117.0	3.89	-0.47	FITS	FITS	_	raw hel helreg	
LRa01	20	HD 49933	102.708	-0.54088	2007-10-18	2008-03-03	F2	v	5.77	0.39	6467.0	4.27	-0.37	FITS	FITS		raw hel helreg	

HELREG: 📃

THE END

7/26/10 Peter Plavchan