The Life of Stars and their Spectra



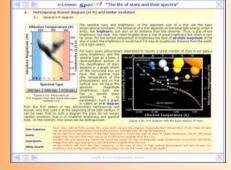


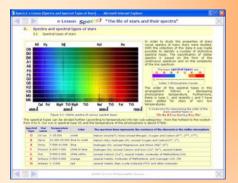
It is an electronic pedagogical tool for secondary schools that aims to provide a ready-to-use resource, inspired by real observations and research activities applying modern processing techniques. This tool presents to you an e-Lesson and a corresponding e-Exercise focused on the stellar spectra and their importance in astrophysics.

	NTENTE	
	SIEVI	
1	Light and the spectrum	
	1.1 Light has official	
	1.3 Visible and invisible spectrum	
2.	Types of optical spectra	
	2.1 Continuous, emission line and absorption line spectra	
	2.2 Continuous spectrum of luminous solid or liquid	
	II.3 Absorption and emission lines of gases	
3.	Spectra and spectral types of stars	
	3.1 The statlar spectral	
	3.2 Spectral types of stars	
4	Hertzsprung-Russel diagram (H-R) and stellar evolution	
	4.1 Geraral H-R dagram	
	4.2 Basis phases of stellar evolution	
	4.3 HA dagrans of stallar systems	
3	Estimating the age of a stellar system using spectral classification of its stars	
	5.1 Fundamental conditions	
	5.2 Asiation between the age and the distribution of spectral types of stars	
	Kepwards	
	Belevinces	



Travelling through the pages of the lesson you will get basic information on light and its spectra, on the stellar spectra and their classification into spectral types, and how they provide us with knowledge about the stars and their life. This lesson will be the theoretical base to understand the exercise.

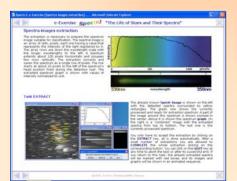




On the other hand, by doing the exercise you will follow, in a simplified manner, the steps taken in a real research project. You will find the age of stellar systems in the neighbouring galaxy SMC by classifying and analysing the spectra of their stars.

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	e-Exercise Spect	*The Life of Stars and Their Spectra*	X
Fields or	nd Frames		
Field A Field B Field C	regions, or fields , with the shellar right fixeds (shellar association) L016 (star cluster) L015 (star cluster)	en; in the SMC, that will be investigated here are:	
Two frame Frame 5 Frame 1	s per shied will be prosented includes selected stars of the stalla includes selected stars of the stalla	instein, e.g. Frank AS for the Field A contains the stellar association 1445 background near to the stellar system (for companion)	
Tasks			
Detect Extract Classify Analyze Result	e consists of the execution of an order interactive detaction of spectra com- sutomated eviruation of the detacts interactive classification of the extra obtaining spectral topes distribution final result presentation for all the t	expanding to share dispects a comparison with spectral types standards instruments for the stars and for the field of the object	
very simple	router field, you have to complete a t still evendon you have to defact, entry to complete the tasks automatically.	lask in order to start the next one lithe beteck can always be started), in the act and classify only a small number of spectra of an stpect field. Then you will	
Task Cod	te dialogue		
		This failingue allows you to select the rest field/hams/task for execution, too have only to make a realize batter corresponding to the task you with to second or involution account to defaulted. Then press the BLN faultion, a proper message will be displayed if you are not est allowed to execute the selected task, otherware the second actual to task.	
- 67	EEE	There is a progress har displayed in trust of each radio-button indicating the completaness of the corresponding task, now can always sheek the state of	

Also, you can press the STDE



SpectrJ is the contribution of the Greek partner GR-HoU: PHILEKPAIDEFTIKI ETAIRIA (One of the oldest educational establishments in Greece, since 1836) SpectrJ is developed by: Dr. Margarita Metaxa, Dr. Aglaia Bobetsi, PHILEKPAIDEFTIKI ETAIRIA Dr. Ioannis Bellas-Velidis, Dr. Anastasios Dapergolas NATIONAL OBSERVATORY, ATHENS



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