## Spectral characterisation of the comenes input catalogue

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CARMENES (Calar A Spectrographs) is the For a sample of 312 arths with Near-infrared and optical Échelle cope. Its first light is expected in early 2014. mparing their low-resolution spectra with those of For a sample of 312 standard stars acquired during the same observing runs. This study allows us to complete the CARMENCITA (CARMENES Cool star Information and daTa Archive) database, which is the most comprehensive catalogue on M dwarfs ever built. This database \_\_\_\_ prises the over 1200 brightest, latest M\_dwarfs in the solar neighbourhood. Among them, we will choose carefully the () most promising candidates that will () ved for low-mass planet companions by means of the analysis of high accuracy radial velocity measurements. Our with the company of the analysis of high accuracy radial velocity measurements.

**Observations** • From November 2011 to March 2012, we conducted an observing program on a sample of 312 sources, mostly from Lépine & Gaidos (2011). They were selected as possible entries for the final release of the CARMENES input catalogue. Their long-slit low-resolution (about 4 Å) spectra were taken with the Calar Alto Faint Object Spectrograph (CAFOS) mounted on the 2.2 m telescope of the German-Spanish Calar Alto Observatory (http://www.caha.es/, Almeria, Spain).

Stellar library • During these runs, wenalso incluc whose spectral types range from K5 to M7 for both comparing with the archive of M-type star spectra f (Reid et al. 1995; Hawley et al. 1996), we only reta the most representative of one given spectral type library of standard stars. 1 x 4kx4k e2v CCD 2 x 2kx2k Detector(s) Hawaii 2-Mechanics 6. Becerril (IAA)

**Classification** • The spectral characterisation of comparative analysis of the full spectral manage of its those of our standards. By means of a least-square m

for **best matches** (see Figure). We then performed its spectral typing (see Table) with an accuracy of about 1 dex. We also are deriving the typical spectroscopic indices that will enable us to classify all targets by linearly interpolating the relations between the various sideband ratios and spectral types.

**CARMENES input catalogue** • We are including the parameters derived from our data in the CARMENCITA database, which will be the centrepiece for choosing the 300 most promising planet candidates. The latter will be surveyed during a five-year survey with the CARMENES spectrograph. We expect to **detect super-Earths of 5 M** $_{\odot}$  or less, some of which may be in the habitable zone or transiting.









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INSTITUT FÜR ASTROPHYSIK GÖTTINGEN

Cooling unit S. Becerril (IAA)

≤ K7	M0	M0.5	M1	M1.5	M2	M2.5	M3	M3.5	M4	M4.5	M5	M5.5	M6	M6.5	M7
2%	3%	2%	2%	0%	4%	15%	12%	18%	24%	7%	5%	4%	2%	0%	0%
Mar 2008 Feb 2009 May 2010 Jul 2011 Apr 2012 Man 2014 L Jul 2011 Apr 2012	call for le for the co next-g instrument start of th secured CAHA prelimit prelimit 2	tters of inter onstruction s at Calar A e CARMEN roject funding an green ligh J213 (M bary design eview final design eview J1227 ( st light	Hβ nt of Alto ES d (4V) M4.5V)		E	IeI D <sub>3</sub> NaI	D <sub>2</sub> NaI D		Ha L:	iI			KI KI	Nal M	
o.1	0 0 0.1 orbital dista	J905	M0 - M1 - M2 - M3.5 - M5 - 10.0	······································			6000 Wave	horizontal lengt		$m_{u}$	M		M M M M O <sub>2</sub> band	w	Société FRANÇAISE Nice Françe Sth _ Sth I







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