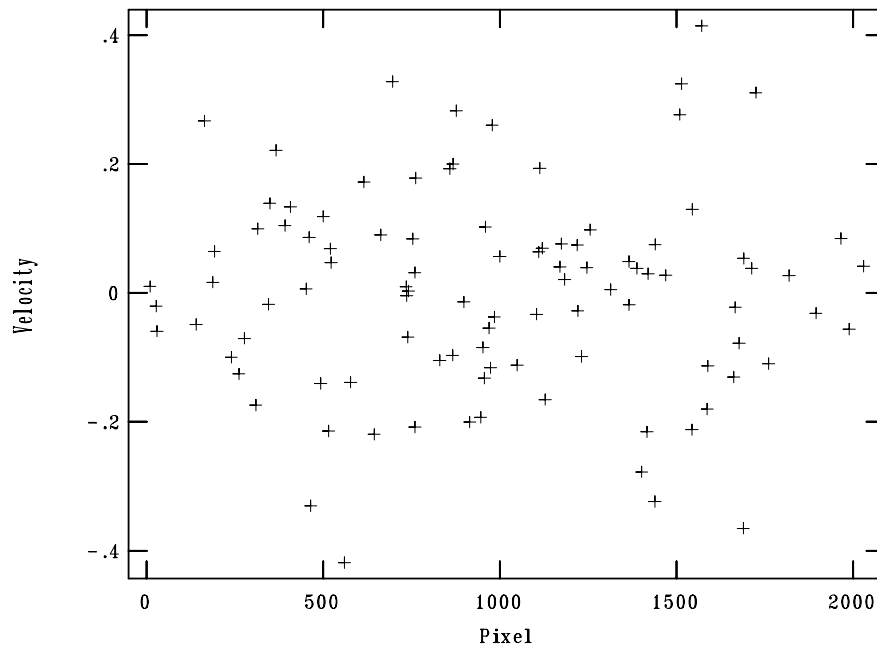


FIES ThAr line atlas  
(Orders 70 – 138)

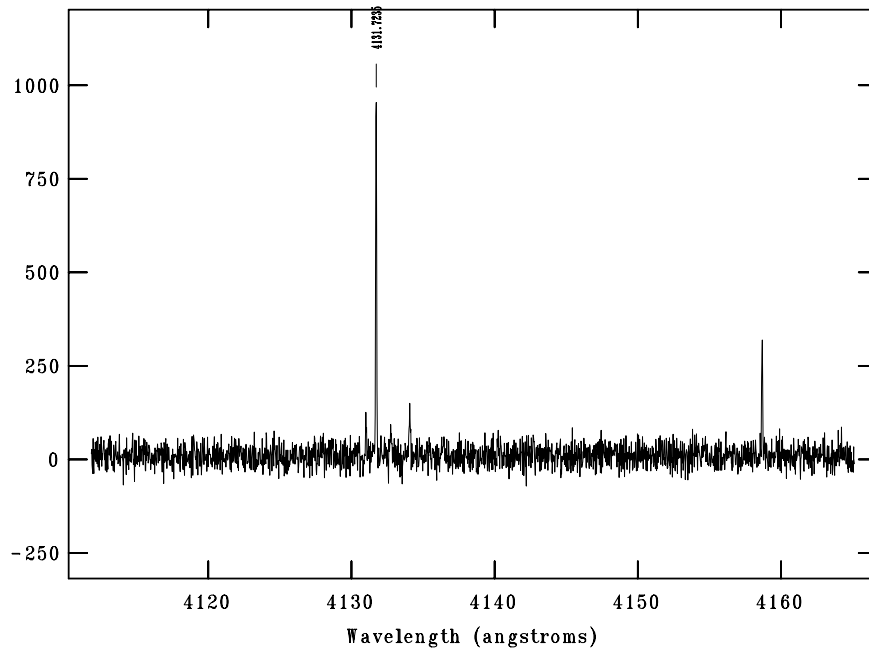
Eric Stempels

November 17, 2005

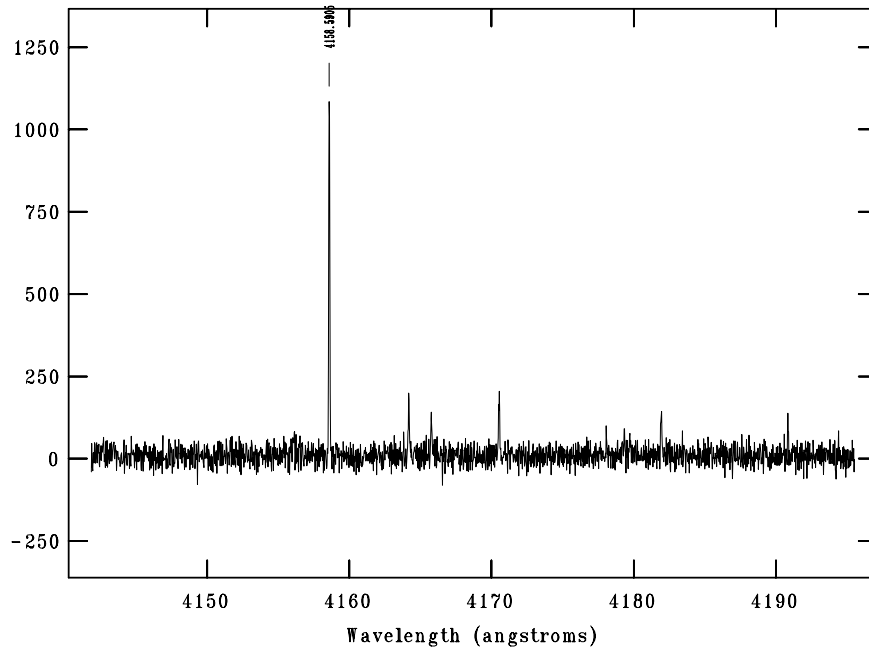
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 14:08:51 17-Nov-20  
Function=chebyshev, xorder=4, yorder=4, slope=-1, offset=144, rms=0.003  
Echelle Dispersion Function Fitting



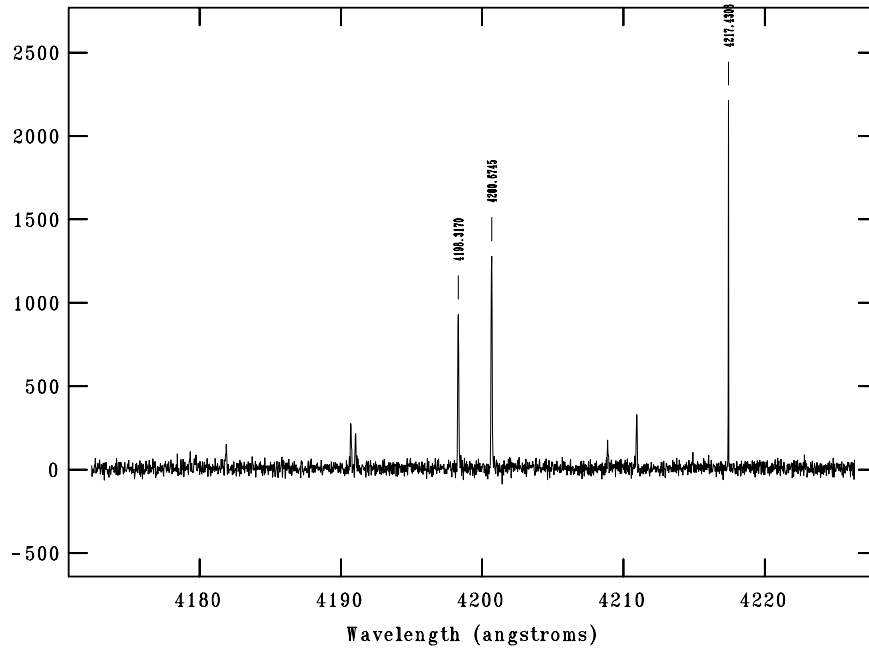
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:11 17-Nov-20  
Aperture 6, Image line 6, Order 138  
ecidentify master\_waveref: Master wavelength calibration



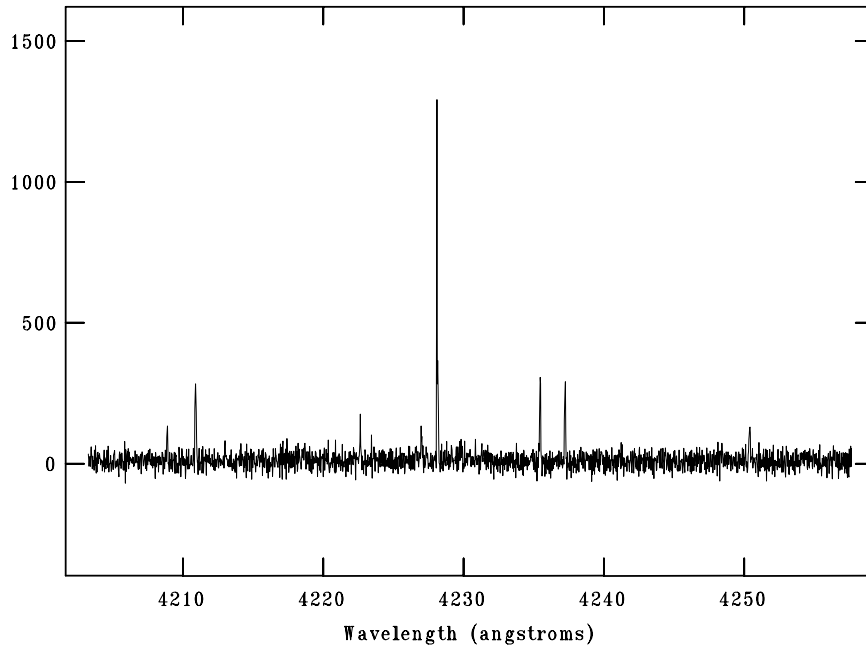
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:26 17-Nov-20  
Aperture 7, Image line 7, Order 137  
ecidentify master\_waveref: Master wavelength calibration



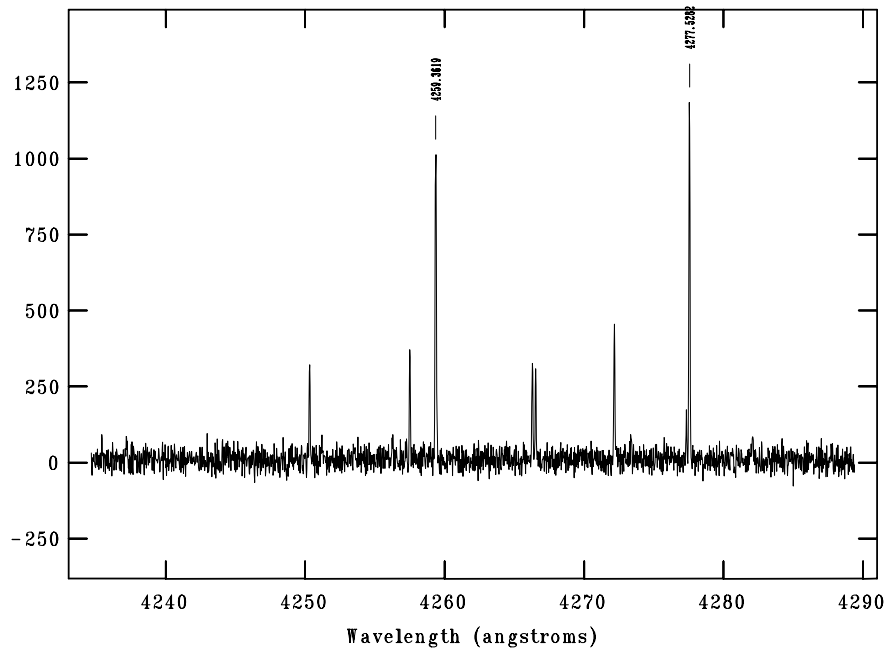
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:29 17-Nov-20  
Aperture 8, Image line 8, Order 136  
eidentify master\_waveref: Master wavelength calibration



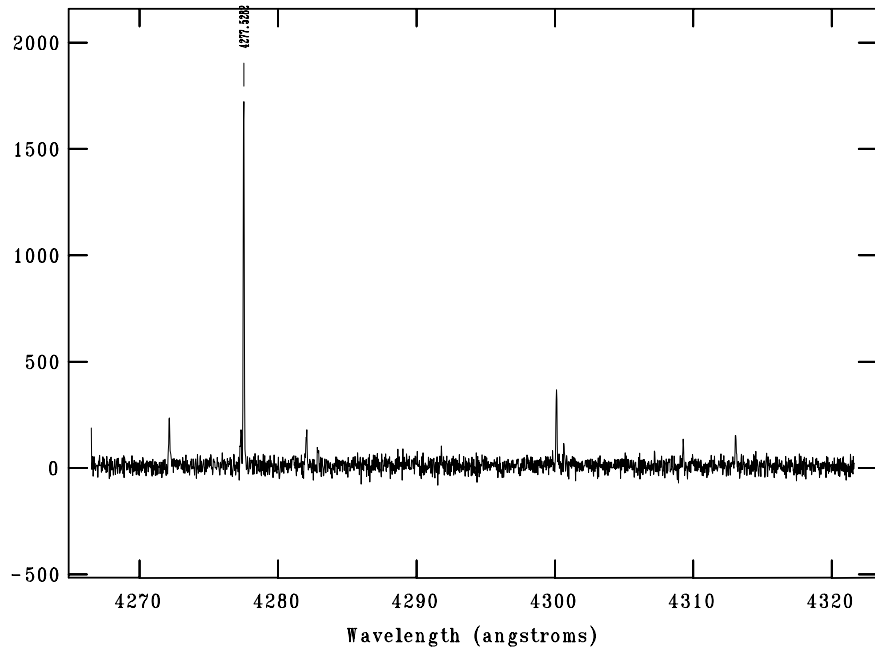
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:35 17-Nov-20  
Aperture 9, Image line 9, Order 135  
eidentify master\_waveref: Master wavelength calibration



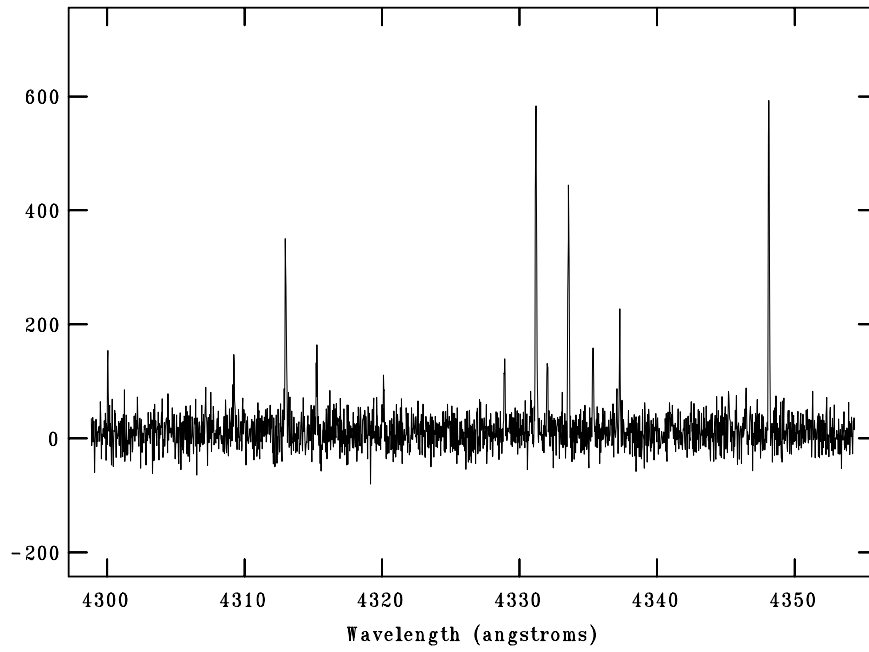
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:38 17-Nov-20  
Aperture 10, Image line 10, Order 134  
ecidentify master\_waveref: Master wavelength calibration



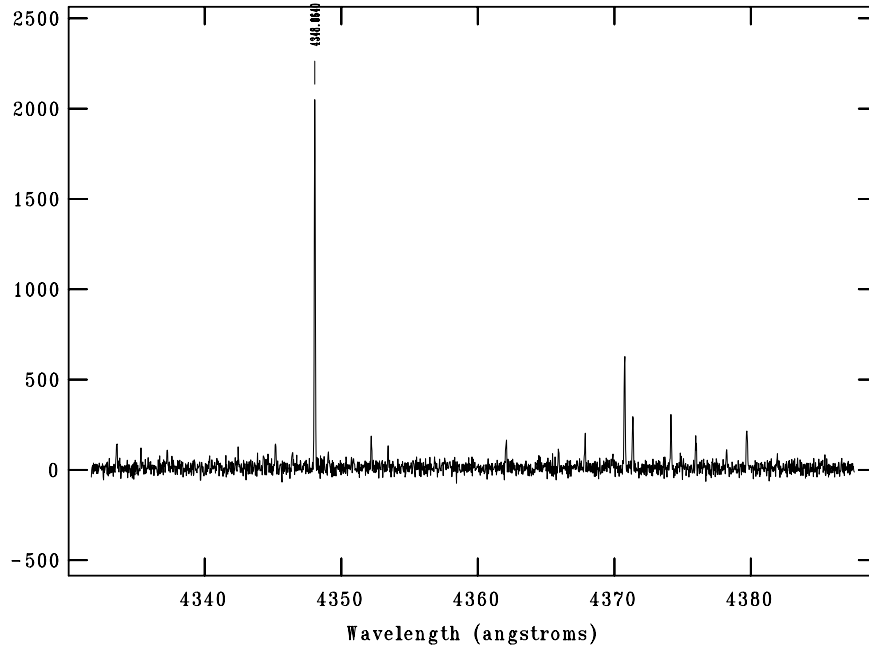
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:40 17-Nov-20  
Aperture 11, Image line 11, Order 133  
ecidentify master\_waveref: Master wavelength calibration



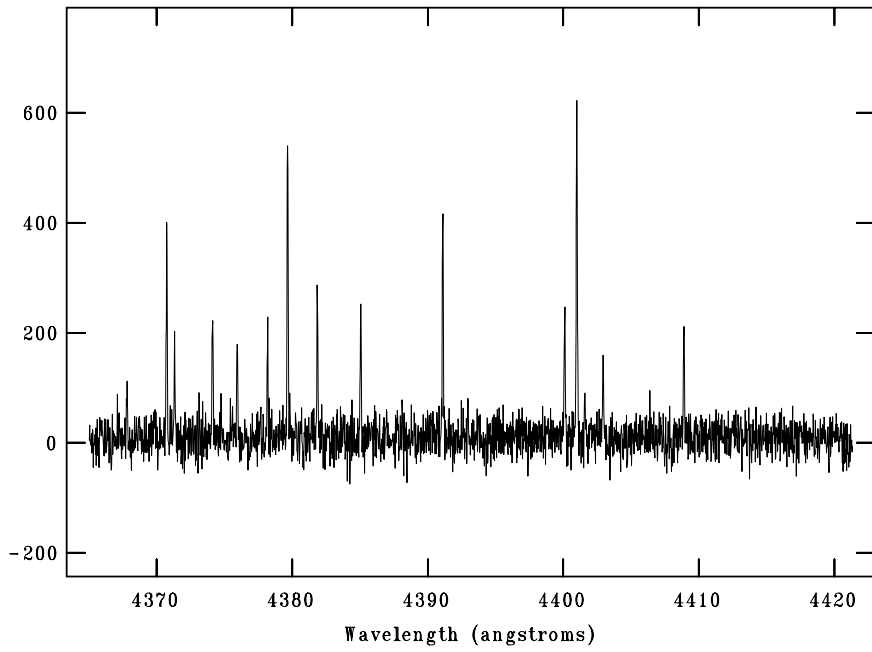
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:44 17-Nov-20  
Aperture 12, Image line 12, Order 132  
eidentify master\_waveref: Master wavelength calibration



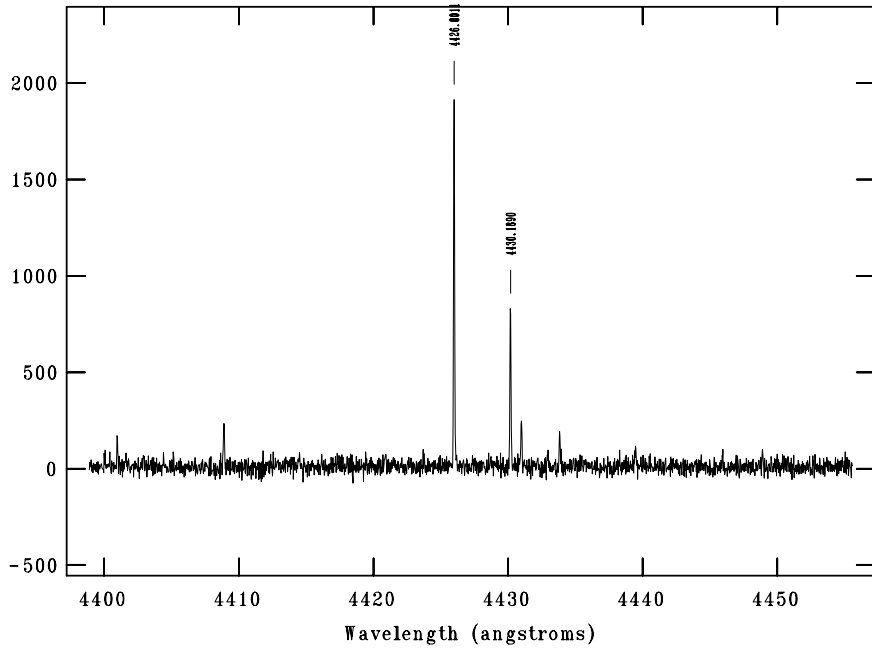
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:47 17-Nov-20  
Aperture 13, Image line 13, Order 131  
eidentify master\_waveref: Master wavelength calibration



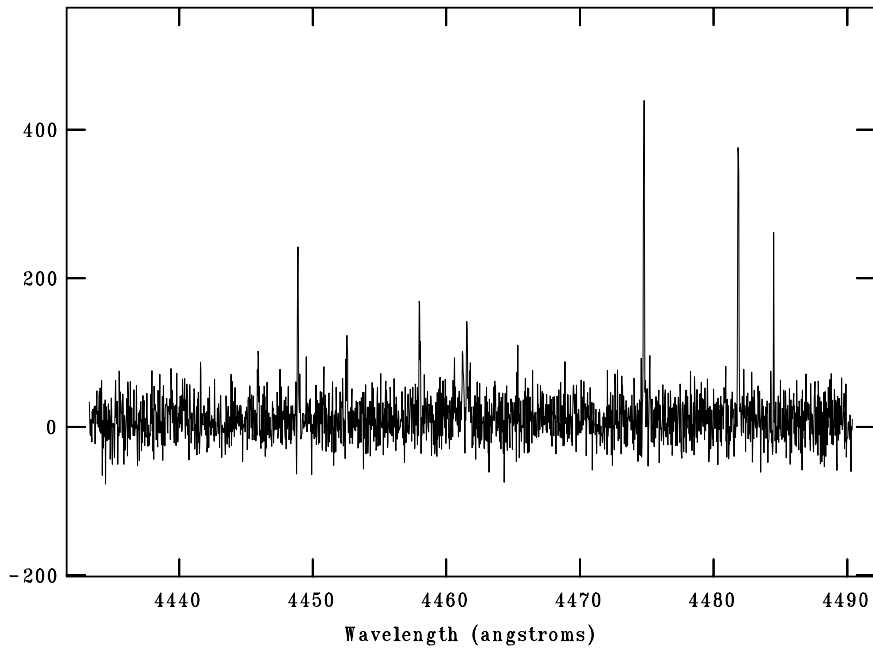
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:50 17-Nov-20  
Aperture 14, Image line 14, Order 130  
eidentify master\_waveref: Master wavelength calibration



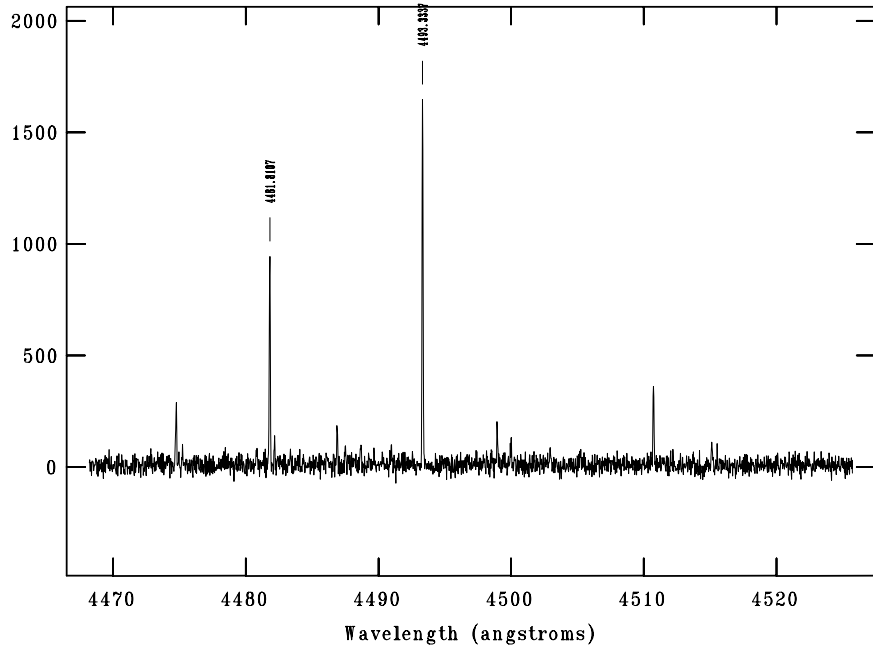
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:54 17-Nov-20  
Aperture 15, Image line 15, Order 129  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:13:57 17-Nov-20  
Aperture 16, Image line 16, Order 128  
eidentify master\_waveref: Master wavelength calibration

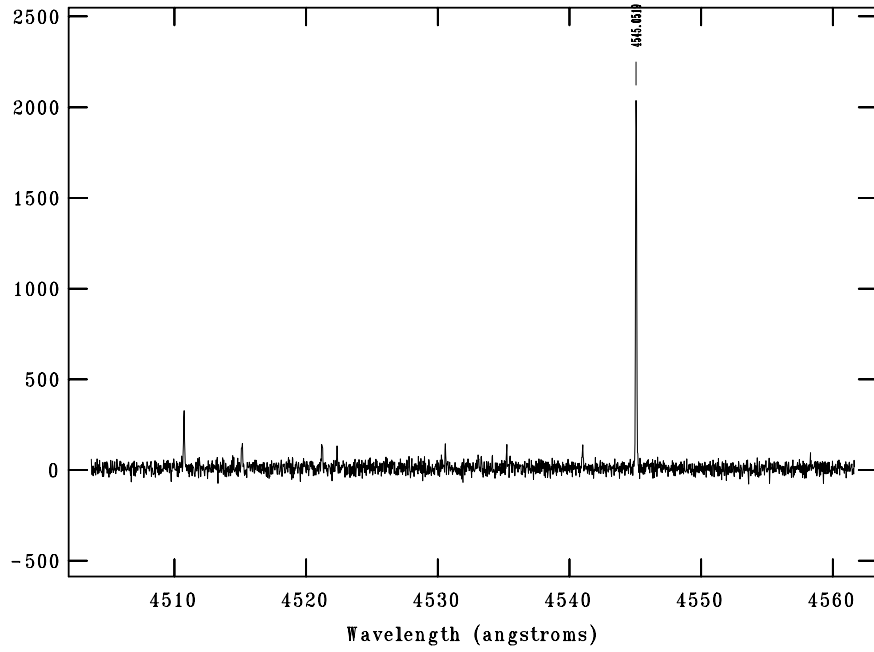


NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:01 17-Nov-20  
Aperture 17, Image line 17, Order 127  
eidentify master\_waveref: Master wavelength calibration

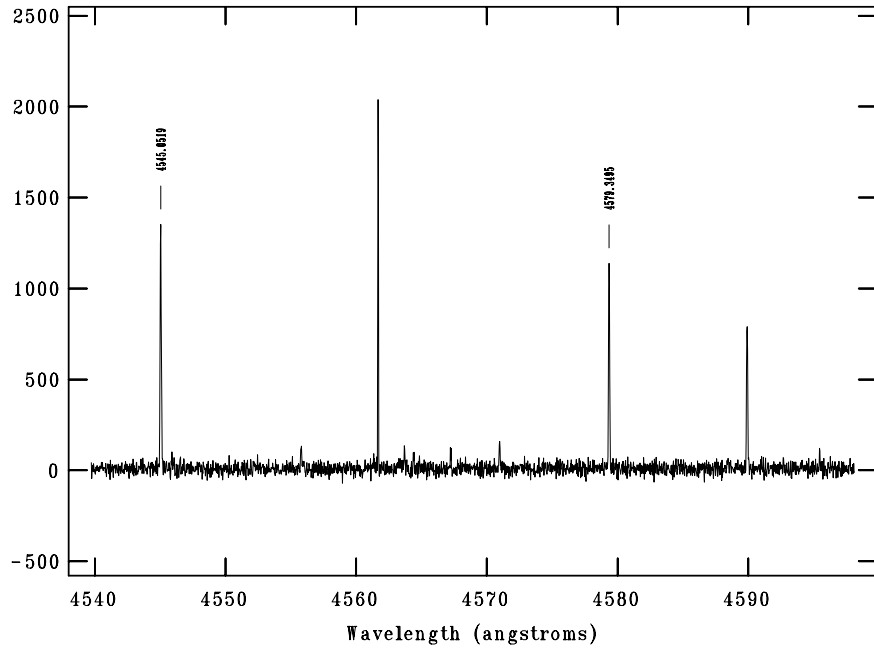




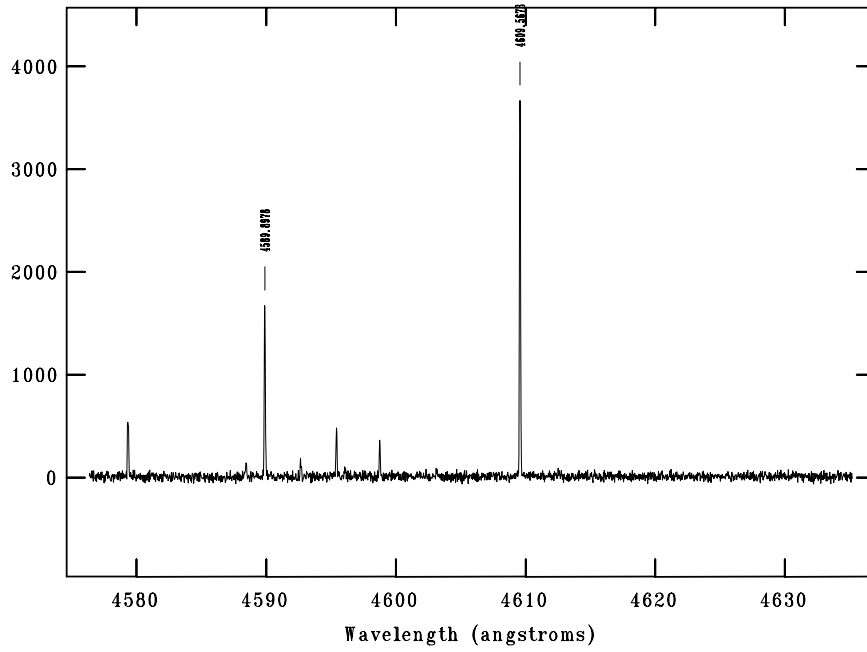
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:07 17-Nov-20  
Aperture 18, Image line 18, Order 126  
eidentify master\_waveref: Master wavelength calibration



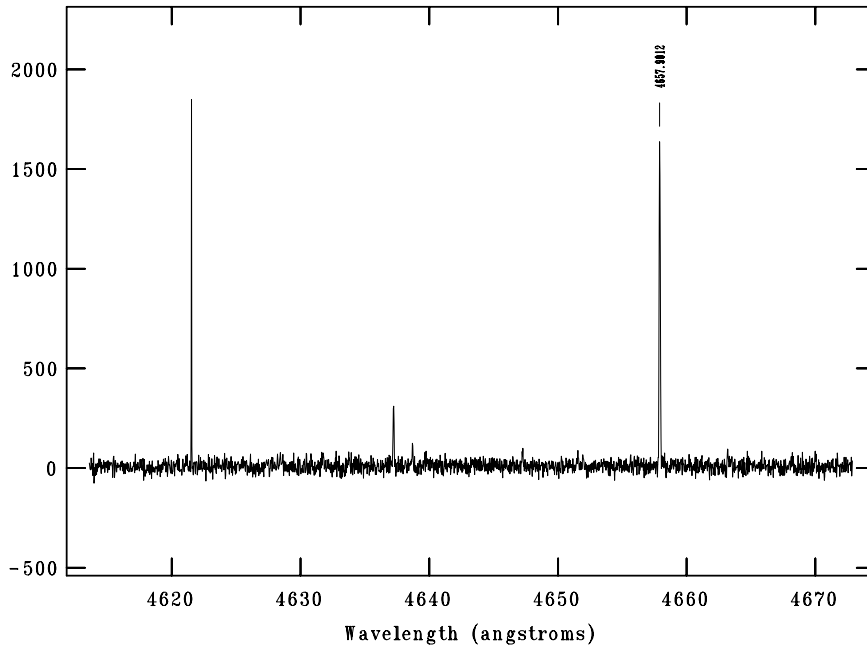
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:10 17-Nov-20  
Aperture 19, Image line 19, Order 125  
eidentify master\_waveref: Master wavelength calibration



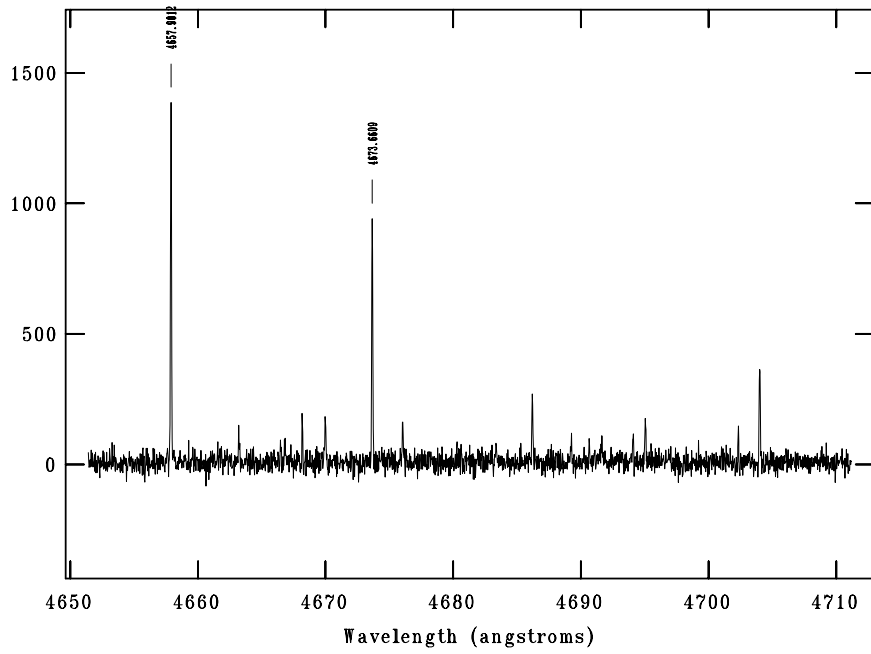
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:13 17-Nov-20  
Aperture 20, Image line 20, Order 124  
eidentify master\_waveref: Master wavelength calibration



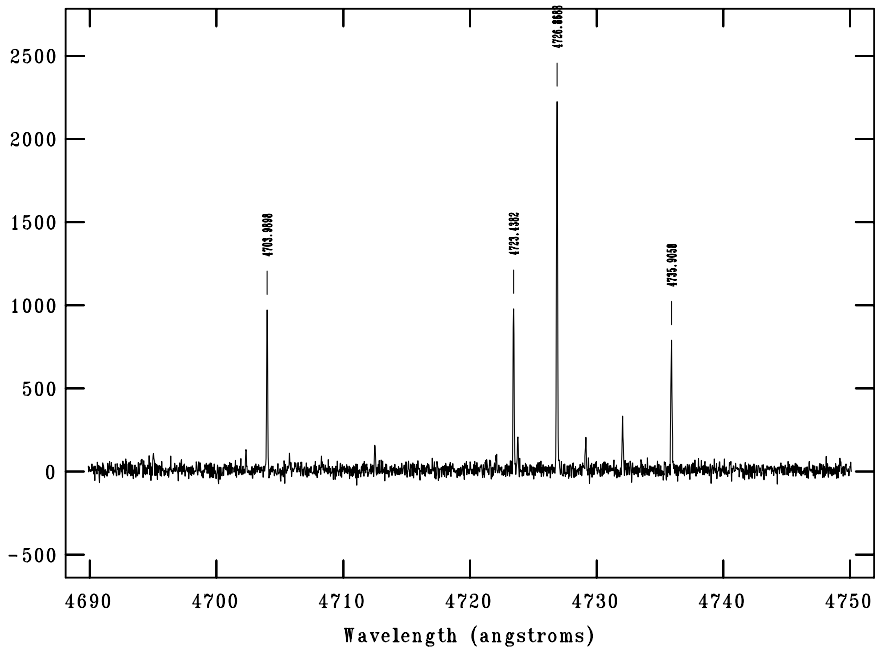
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:19 17-Nov-20  
Aperture 21, Image line 21, Order 123  
eidentify master\_waveref: Master wavelength calibration



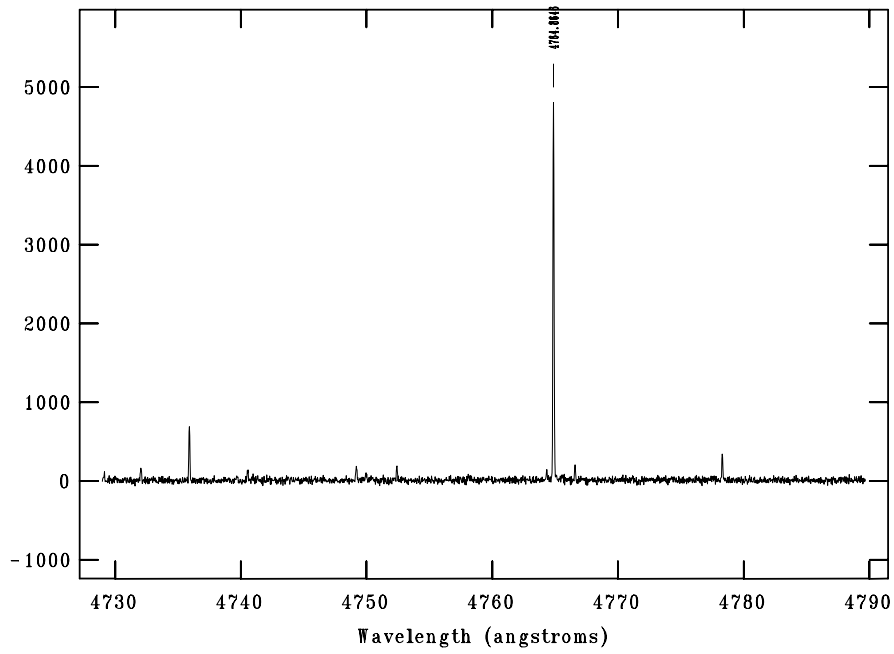
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:23 17-Nov-20  
Aperture 22, Image line 22, Order 122  
ecidentify master\_waveref: Master wavelength calibration



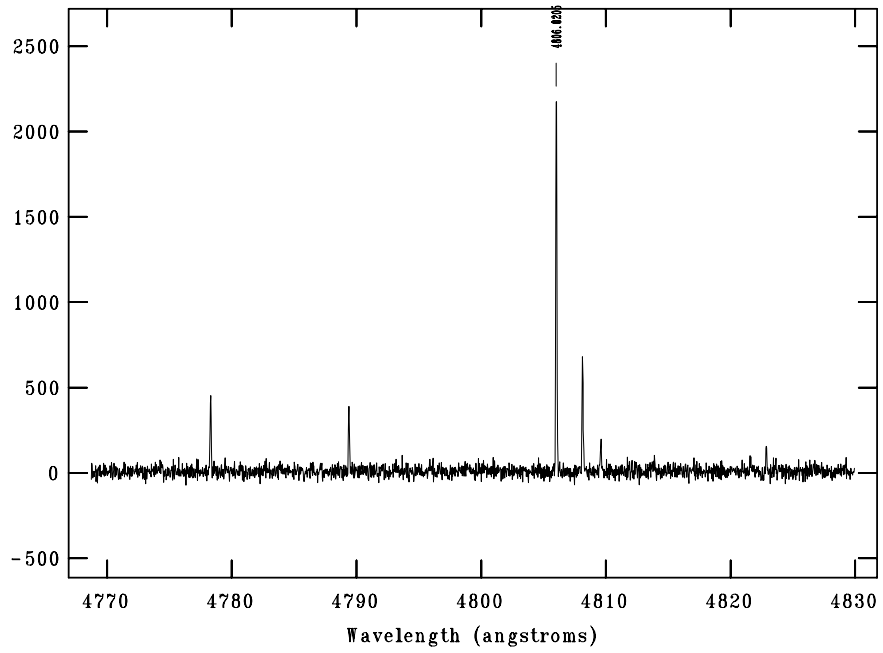
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:25 17-Nov-20  
Aperture 23, Image line 23, Order 121  
ecidentify master\_waveref: Master wavelength calibration



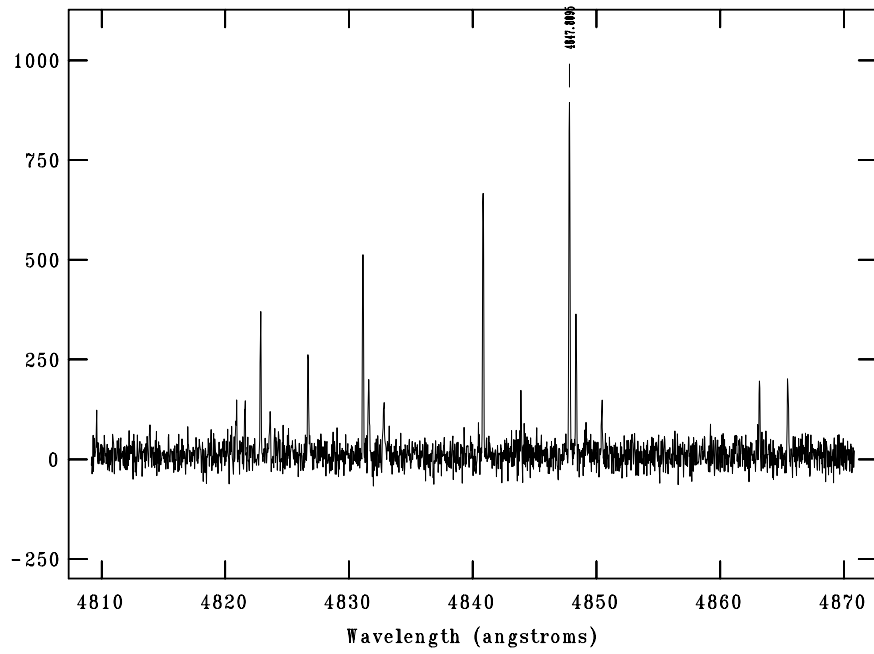
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:30 17-Nov-20  
Aperture 24, Image line 24, Order 120  
eidentify master\_waveref: Master wavelength calibration



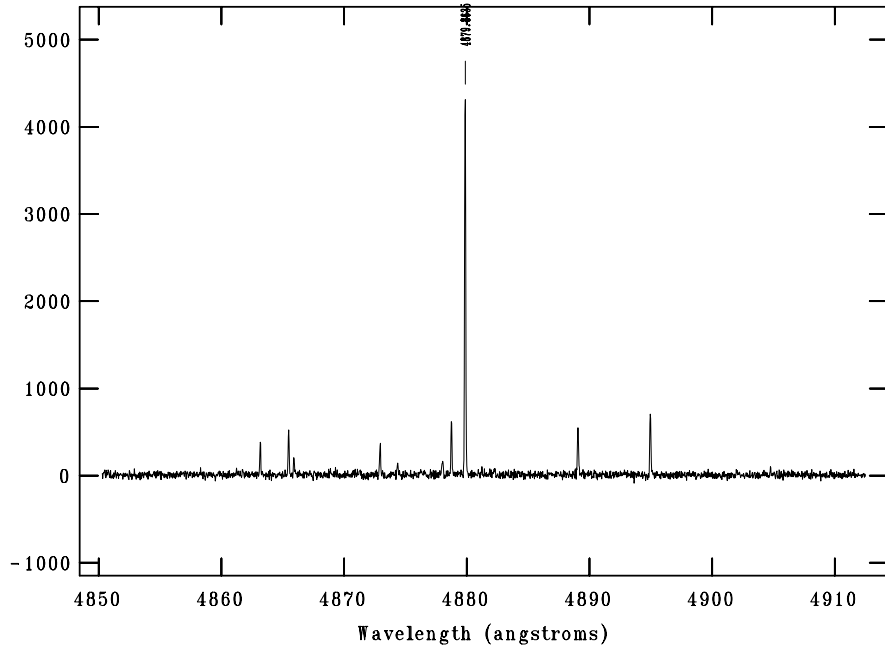
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:33 17-Nov-20  
Aperture 25, Image line 25, Order 119  
eidentify master\_waveref: Master wavelength calibration



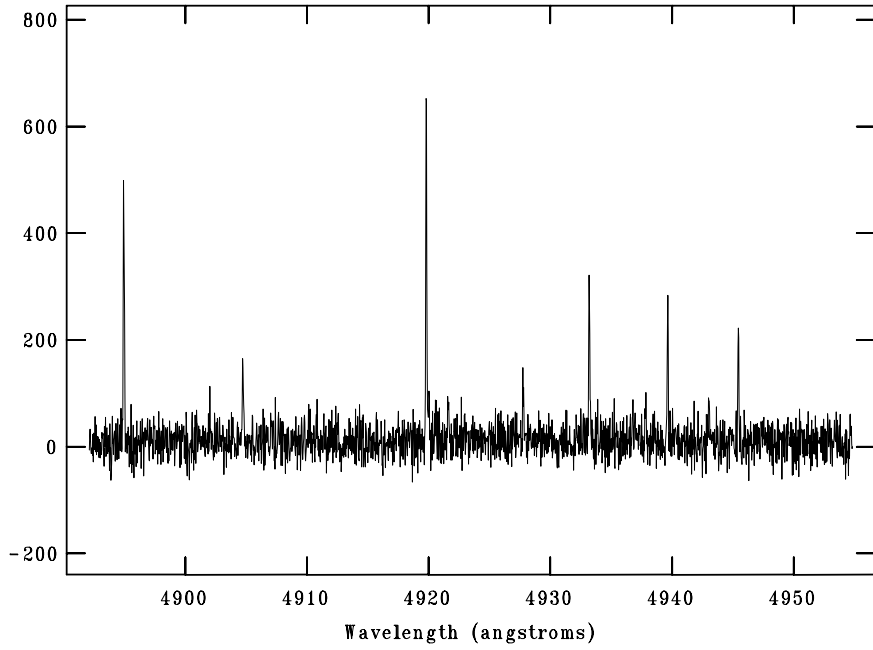
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:36 17-Nov-20  
Aperture 26, Image line 26, Order 118  
ecidentify master\_waveref: Master wavelength calibration



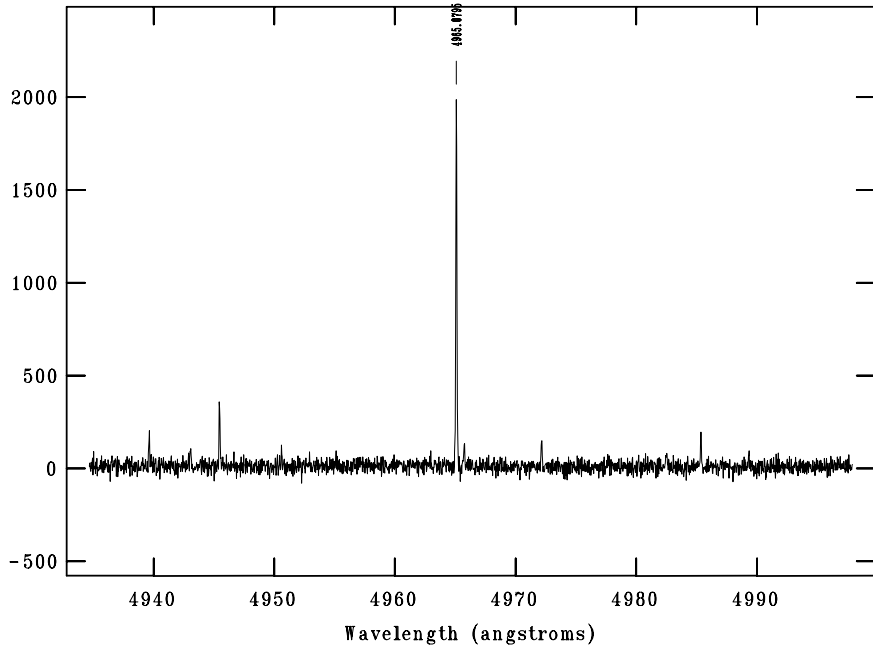
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:42 17-Nov-20  
Aperture 27, Image line 27, Order 117  
ecidentify master\_waveref: Master wavelength calibration



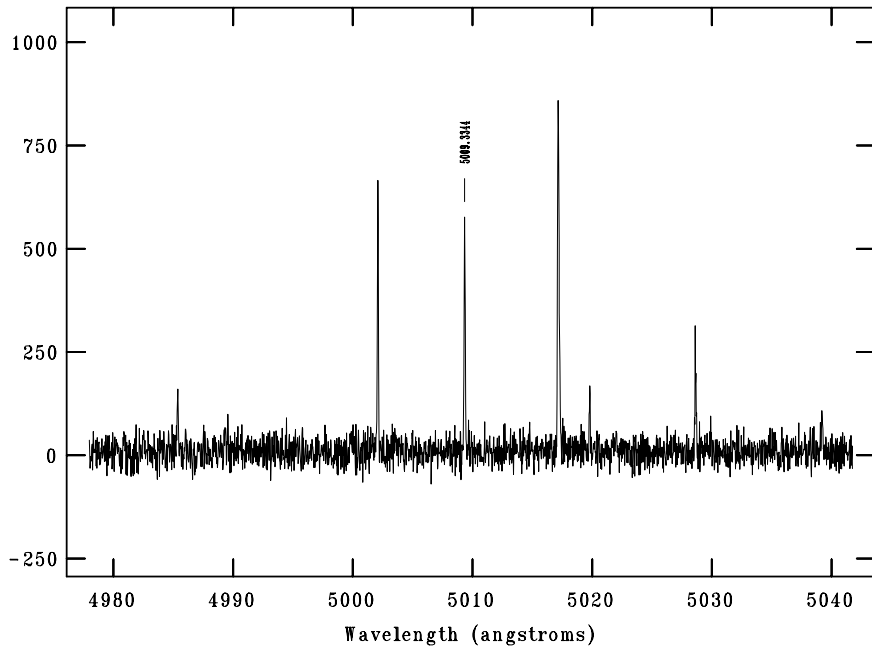
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:45 17-Nov-20  
Aperture 28, Image line 28, Order 116  
eidentify master\_waveref: Master wavelength calibration



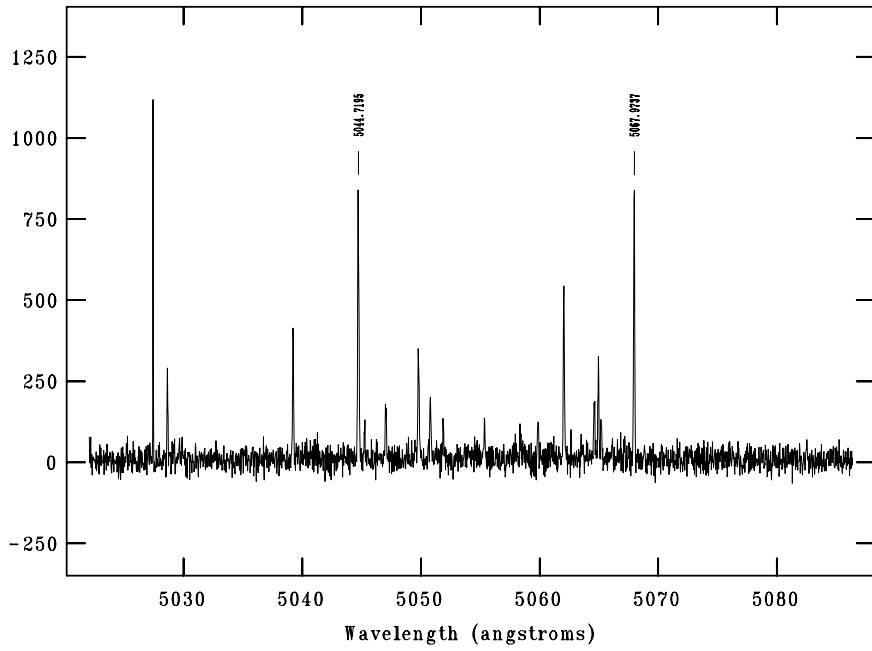
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:47 17-Nov-20  
Aperture 29, Image line 29, Order 115  
eidentify master\_waveref: Master wavelength calibration



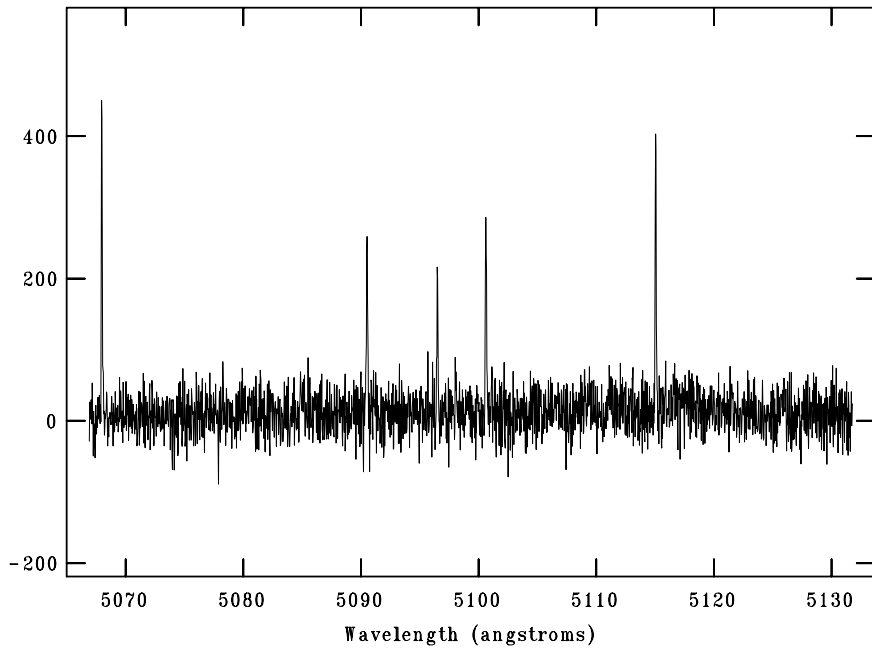
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:51 17-Nov-20  
Aperture 30, Image line 30, Order 114  
eidentify master\_waveref: Master wavelength calibration



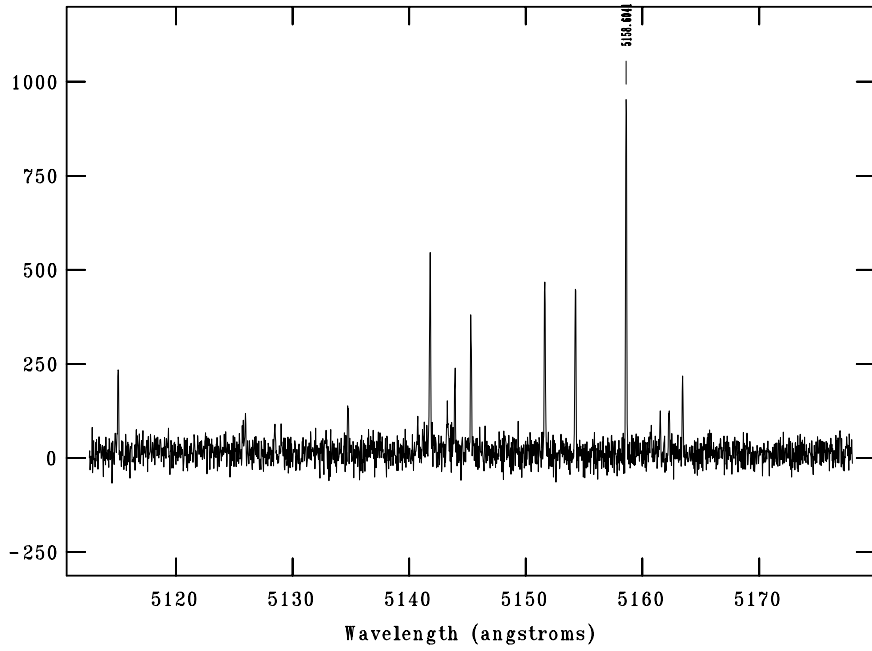
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:53 17-Nov-20  
Aperture 31, Image line 31, Order 113  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:14:57 17-Nov-20  
Aperture 32, Image line 32, Order 112  
eidentify master\_waveref: Master wavelength calibration

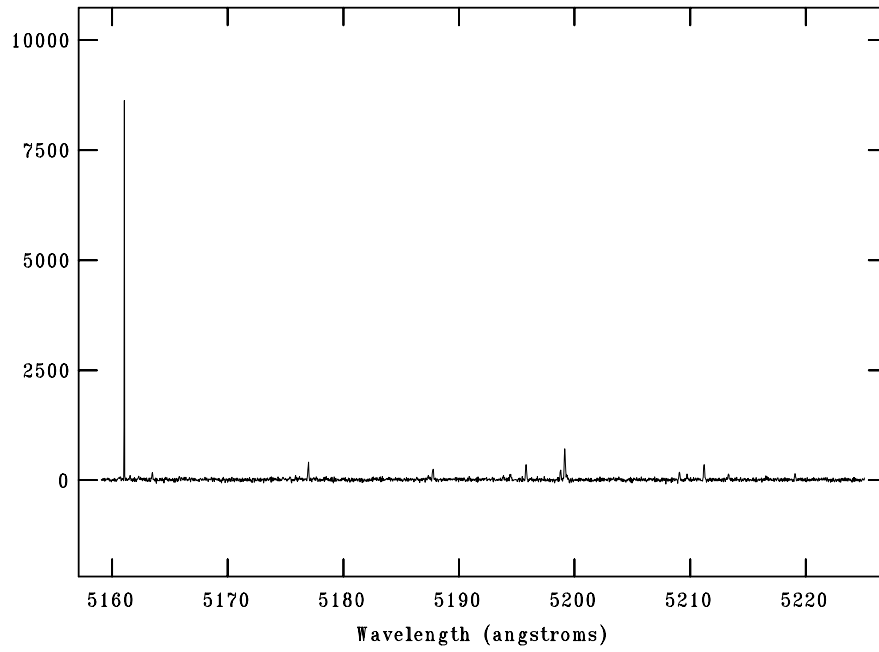


NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:02 17-Nov-20  
Aperture 33, Image line 33, Order 111  
eidentify master\_waveref: Master wavelength calibration

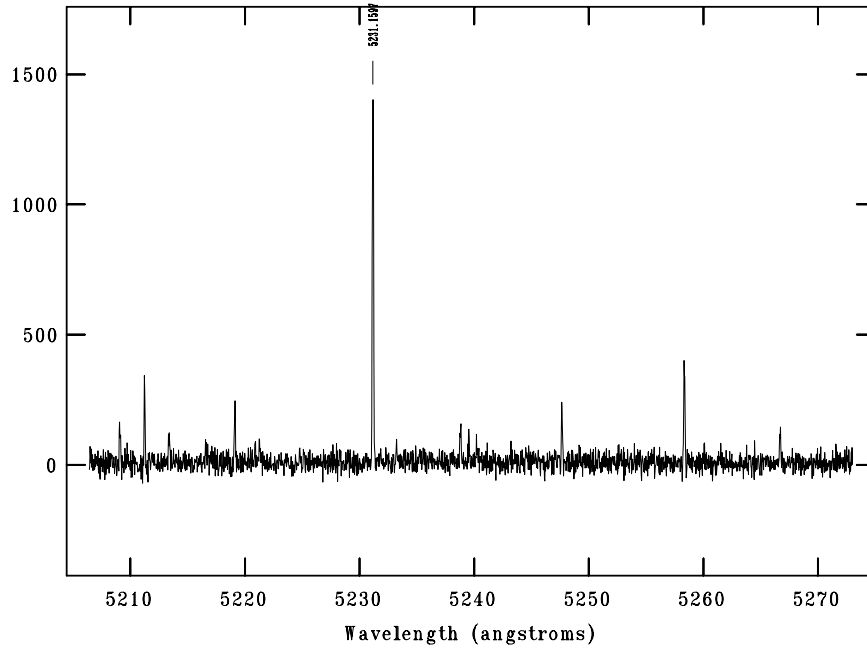




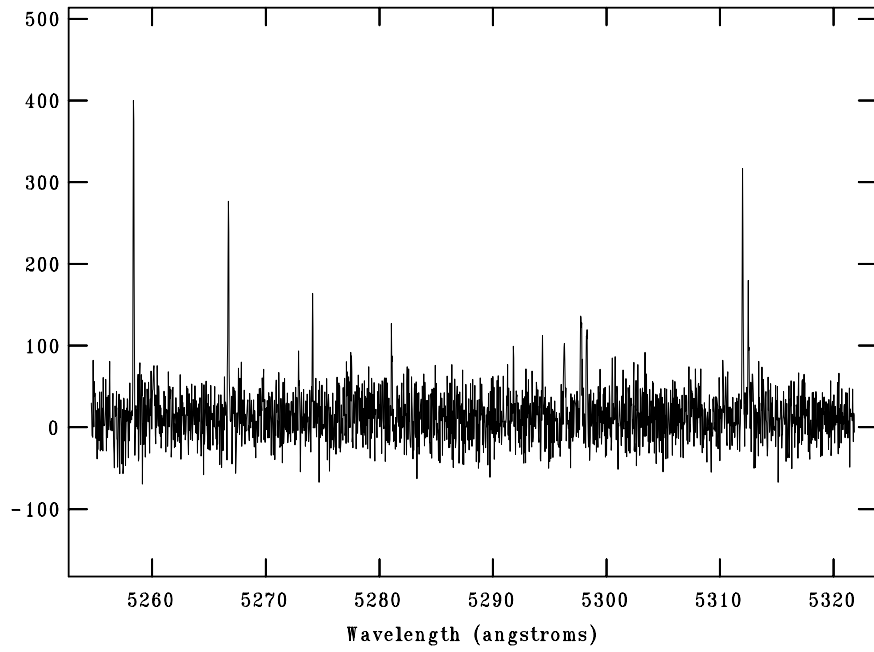
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:05 17-Nov-20  
Aperture 34, Image line 34, Order 110  
eidentify master\_waveref: Master wavelength calibration



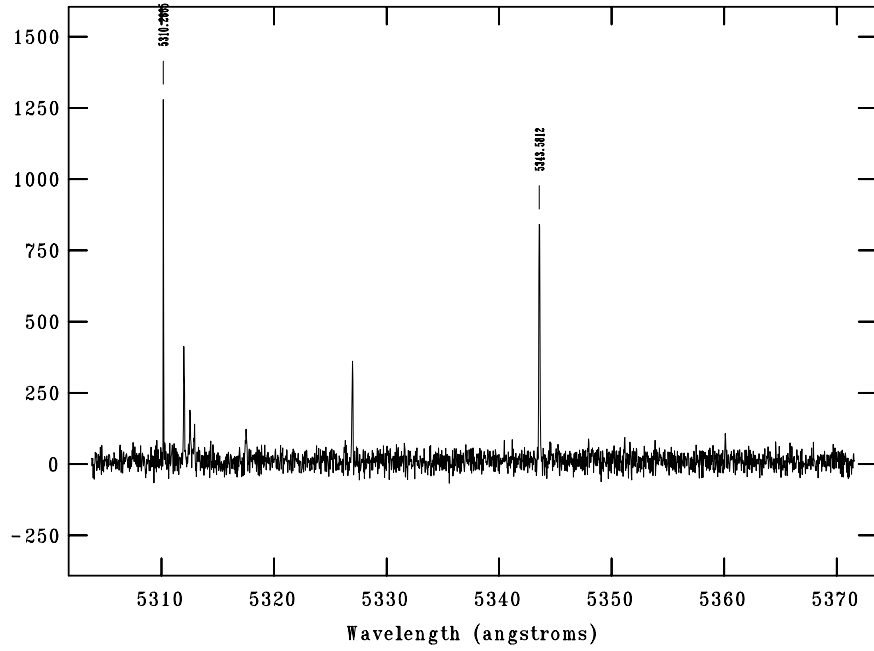
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:07 17-Nov-20  
Aperture 35, Image line 35, Order 109  
eidentify master\_waveref: Master wavelength calibration



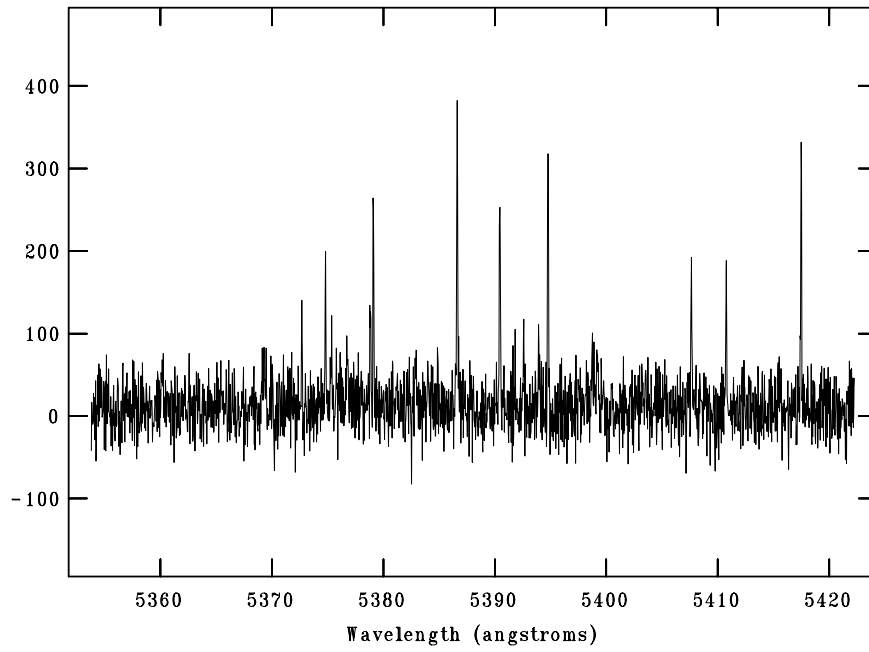
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:21 17-Nov-20  
Aperture 36, Image line 36, Order 108  
eidentify master\_waveref: Master wavelength calibration



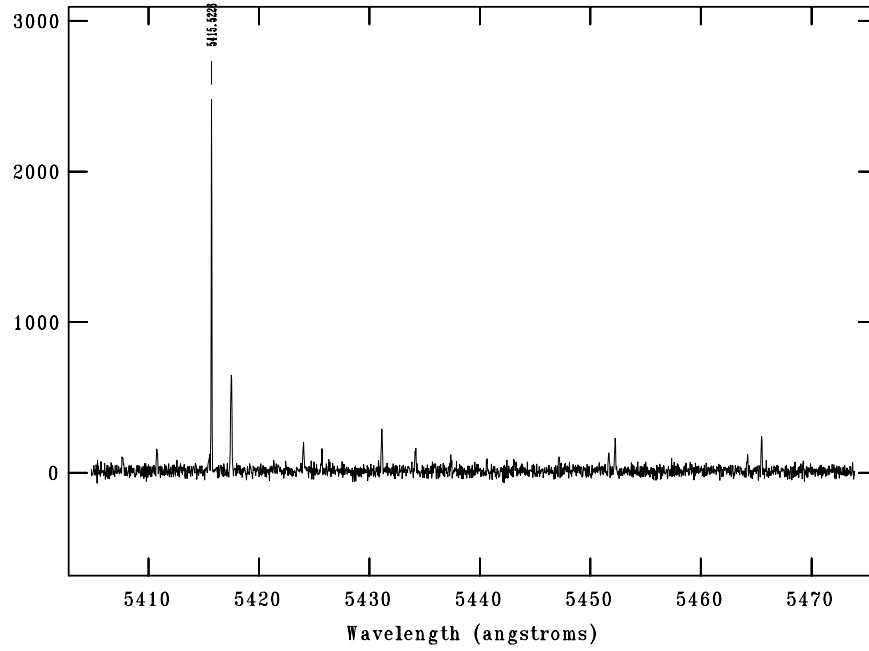
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:25 17-Nov-20  
Aperture 37, Image line 37, Order 107  
eidentify master\_waveref: Master wavelength calibration



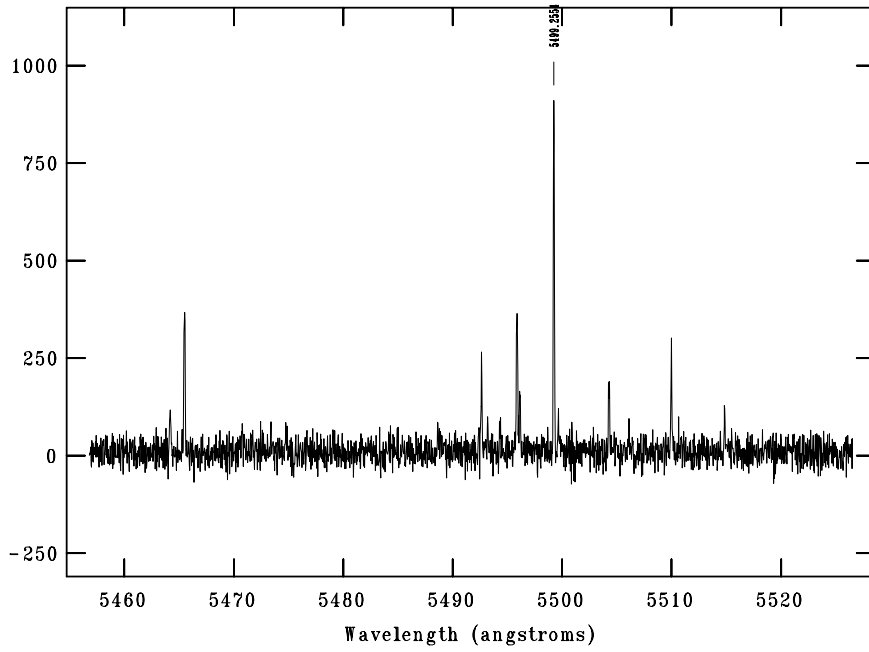
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:27 17-Nov-20  
Aperture 38, Image line 38, Order 106  
eidentify master\_waveref: Master wavelength calibration



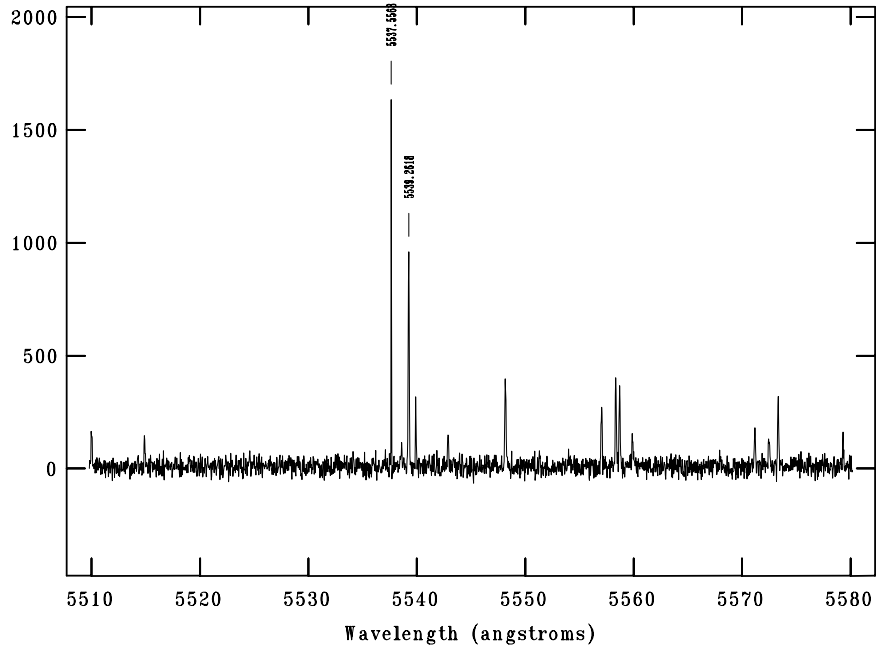
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:30 17-Nov-20  
Aperture 39, Image line 39, Order 105  
eidentify master\_waveref: Master wavelength calibration



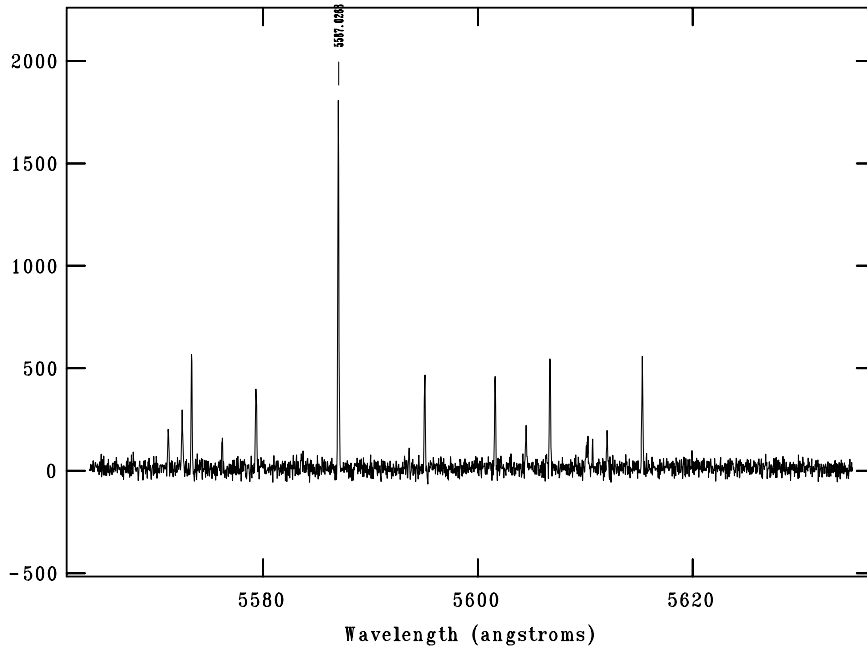
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:32 17-Nov-20  
Aperture 40, Image line 40, Order 104  
eidentify master\_waveref: Master wavelength calibration



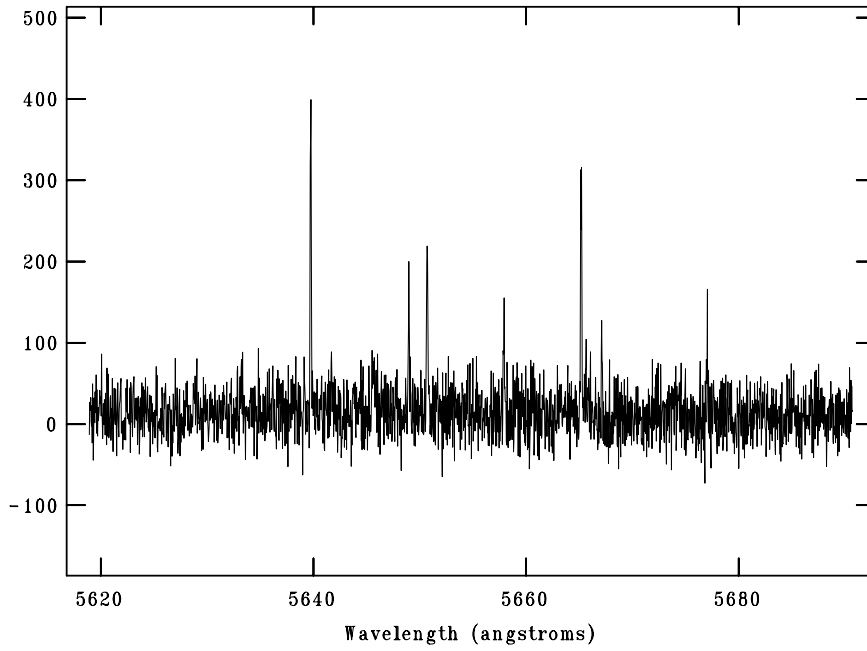
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:37 17-Nov-20  
Aperture 41, Image line 41, Order 103  
eidentify master\_waveref: Master wavelength calibration



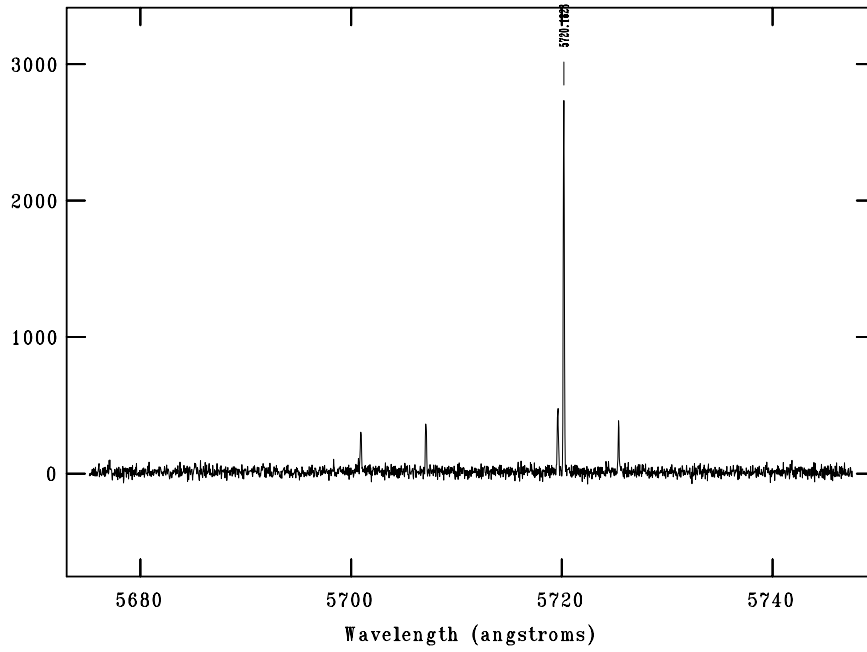
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:40 17-Nov-20  
Aperture 42, Image line 42, Order 102  
eidentify master\_waveref: Master wavelength calibration



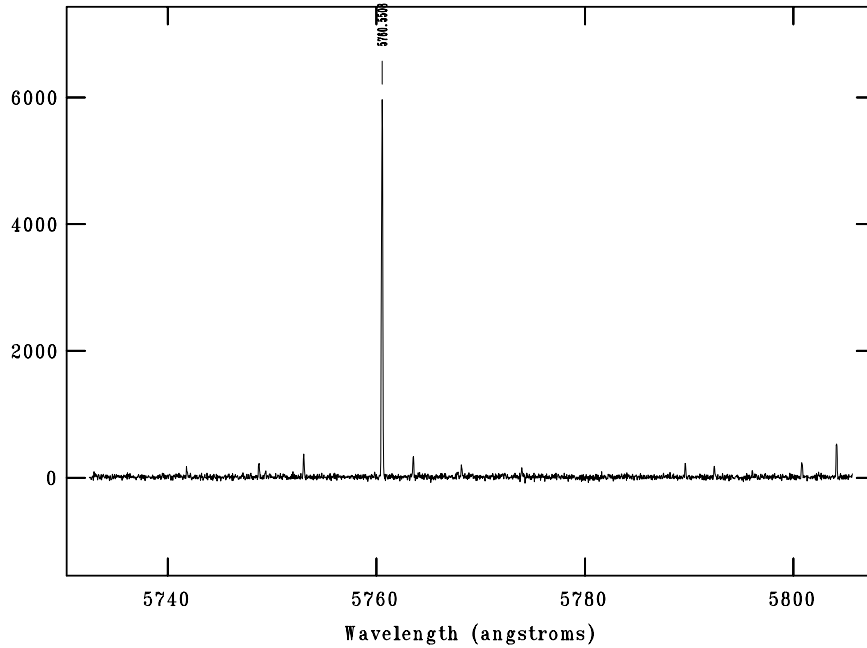
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:42 17-Nov-20  
Aperture 43, Image line 43, Order 101  
eidentify master\_waveref: Master wavelength calibration



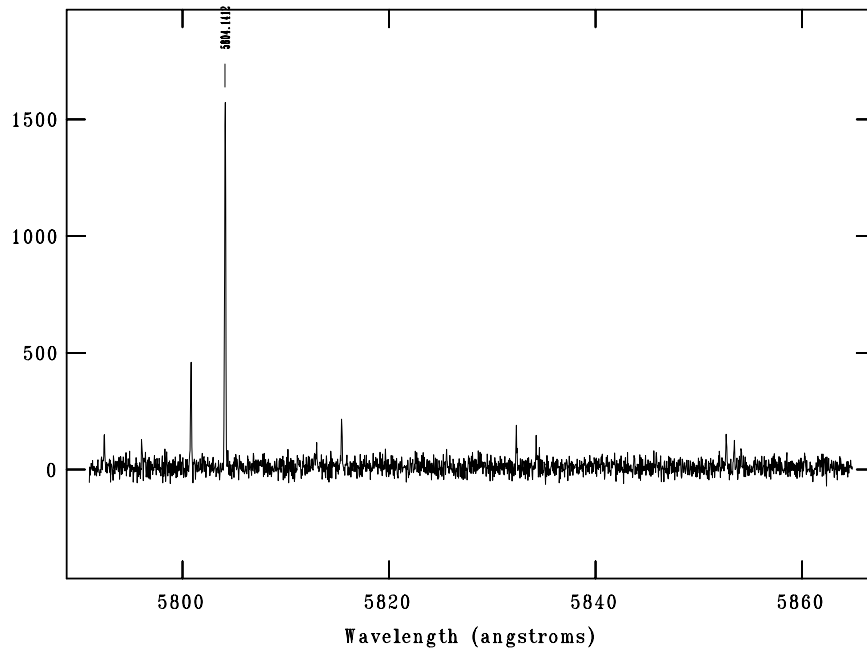
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:45 17-Nov-20  
Aperture 44, Image line 44, Order 100  
eidentify master\_waveref: Master wavelength calibration



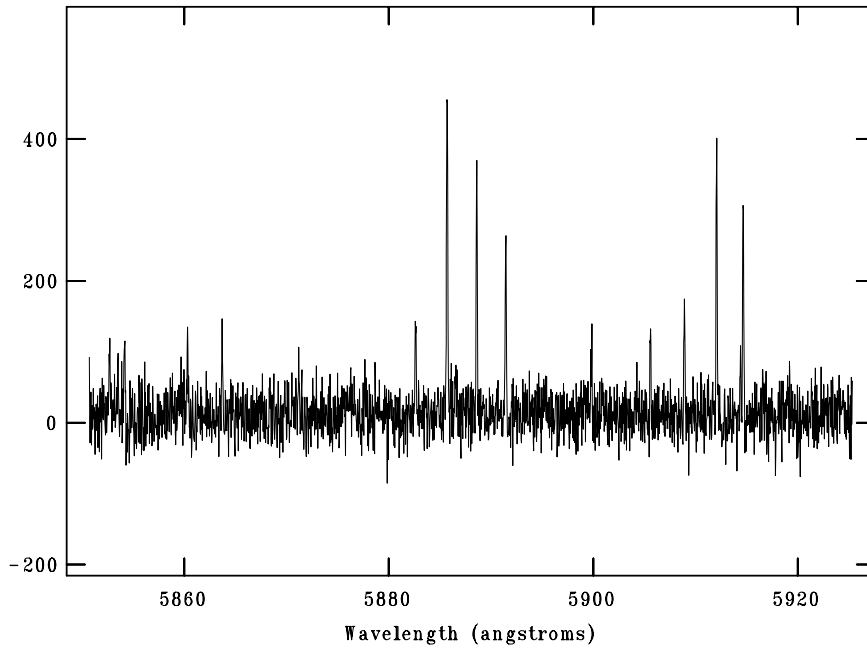
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:48 17-Nov-20  
Aperture 45, Image line 45, Order 99  
eidentify master\_waveref: Master wavelength calibration



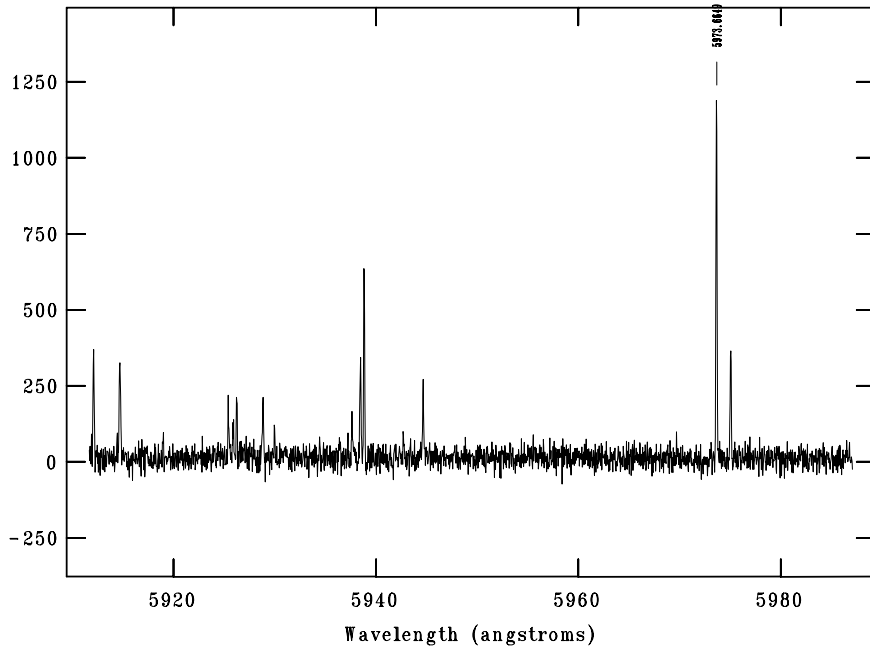
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:50 17-Nov-20  
Aperture 46, Image line 46, Order 98  
eidentify master\_waveref: Master wavelength calibration



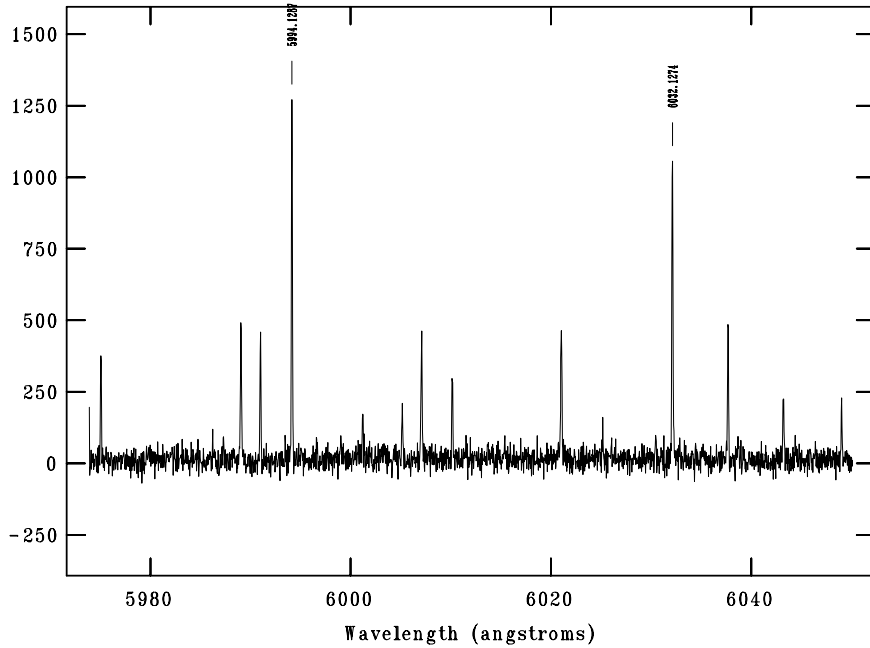
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:55 17-Nov-20  
Aperture 47, Image line 47, Order 97  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:15:58 17-Nov-20  
Aperture 48, Image line 48, Order 96  
ecidentify master\_waveref: Master wavelength calibration

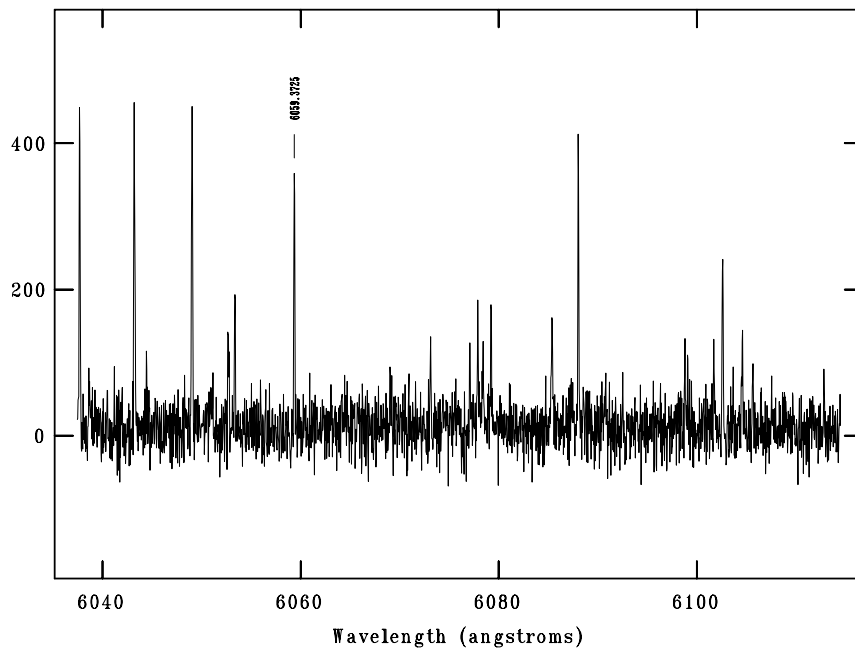


NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:01 17-Nov-20  
Aperture 49, Image line 49, Order 95  
ecidentify master\_waveref: Master wavelength calibration

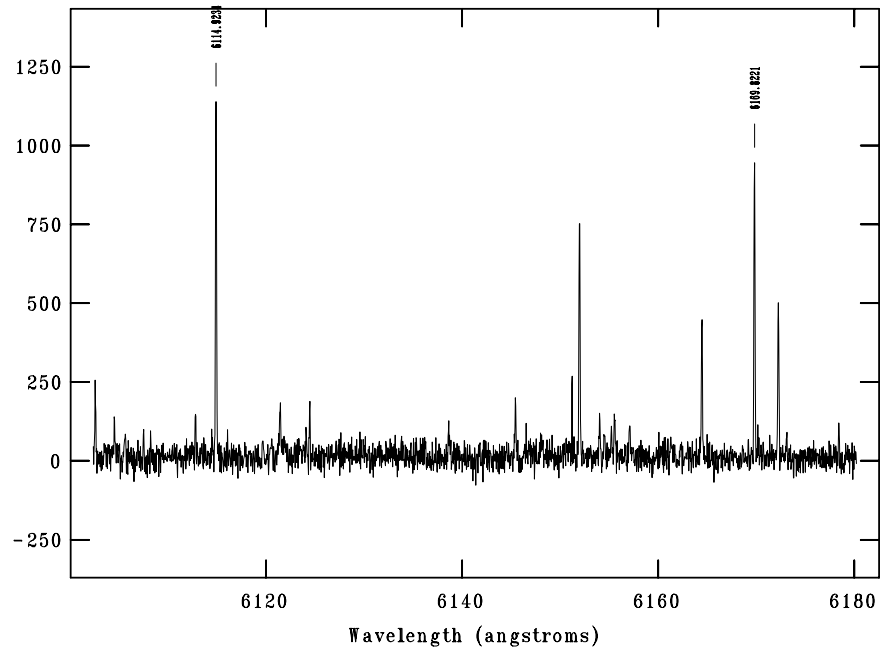




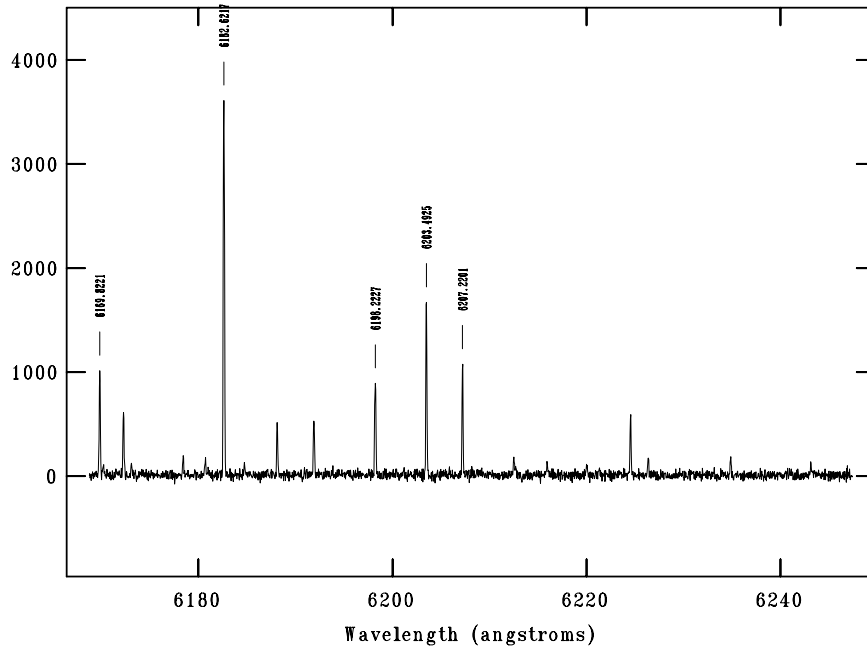
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:04 17-Nov-20  
Aperture 50, Image line 50, Order 94  
ecidentify master\_waveref: Master wavelength calibration



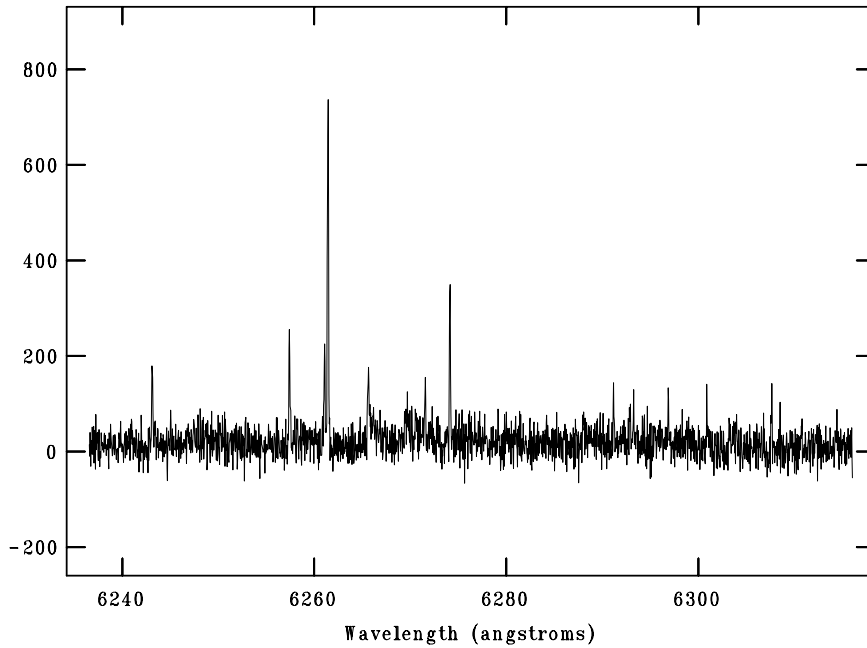
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:06 17-Nov-20  
Aperture 51, Image line 51, Order 93  
ecidentify master\_waveref: Master wavelength calibration



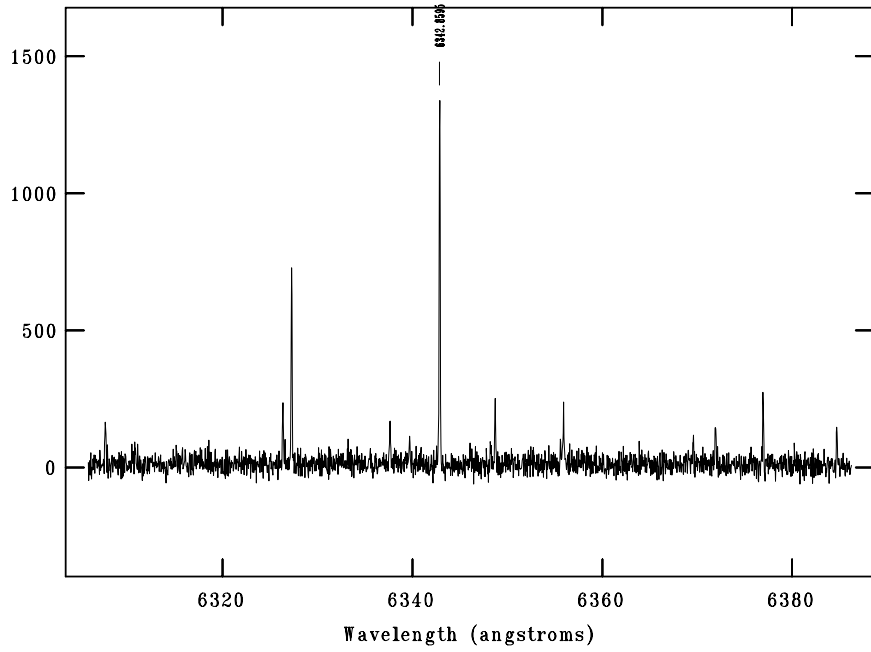
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:13 17-Nov-20  
Aperture 52, Image line 52, Order 92  
eidentify master\_waveref: Master wavelength calibration



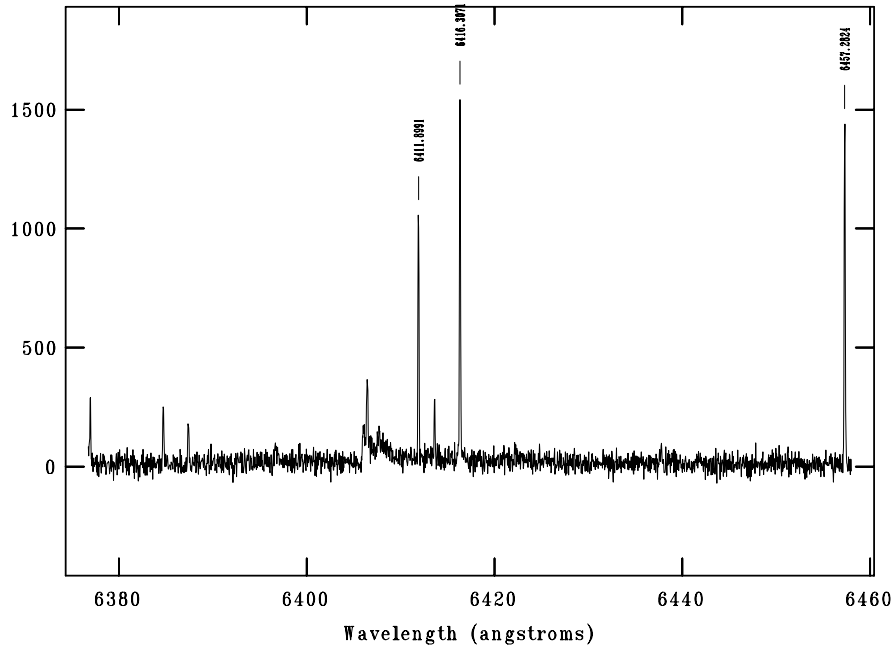
N0A0/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:16 17-Nov-20  
Aperture 53, Image line 53, Order 91  
eidentify master\_waveref: Master wavelength calibration



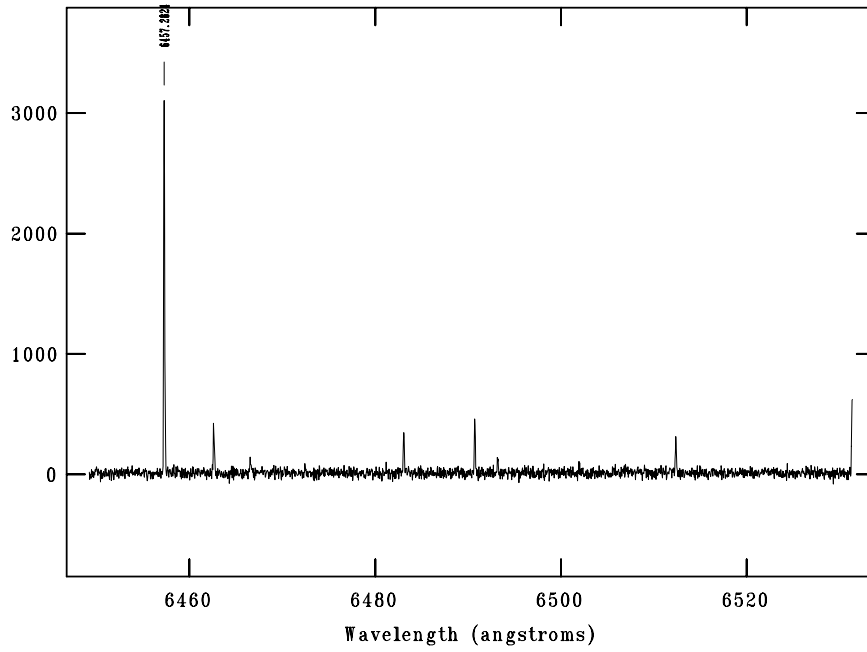
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:20 17-Nov-20  
Aperture 54, Image line 54, Order 90  
ecidentify master\_waveref: Master wavelength calibration



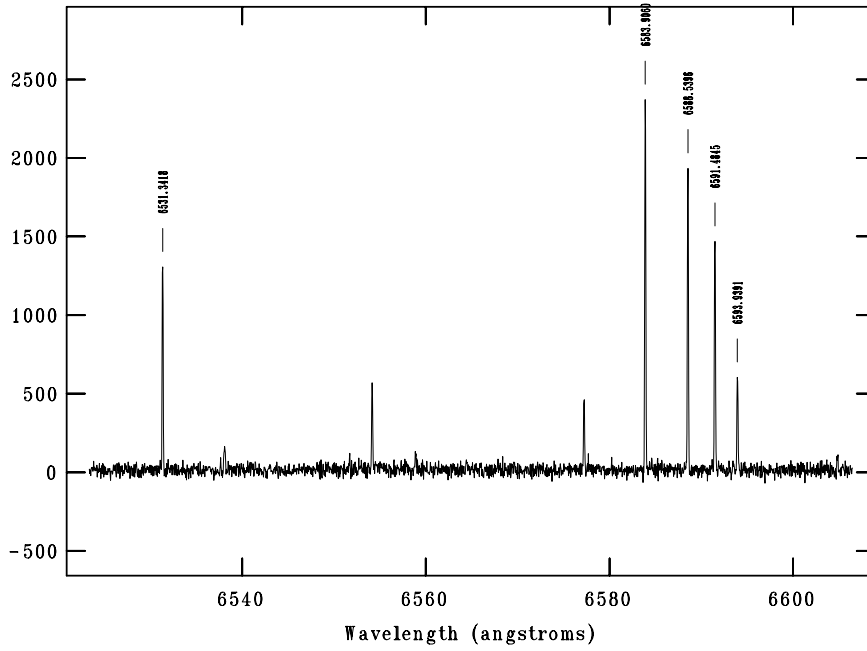
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:22 17-Nov-20  
Aperture 55, Image line 55, Order 89  
ecidentify master\_waveref: Master wavelength calibration



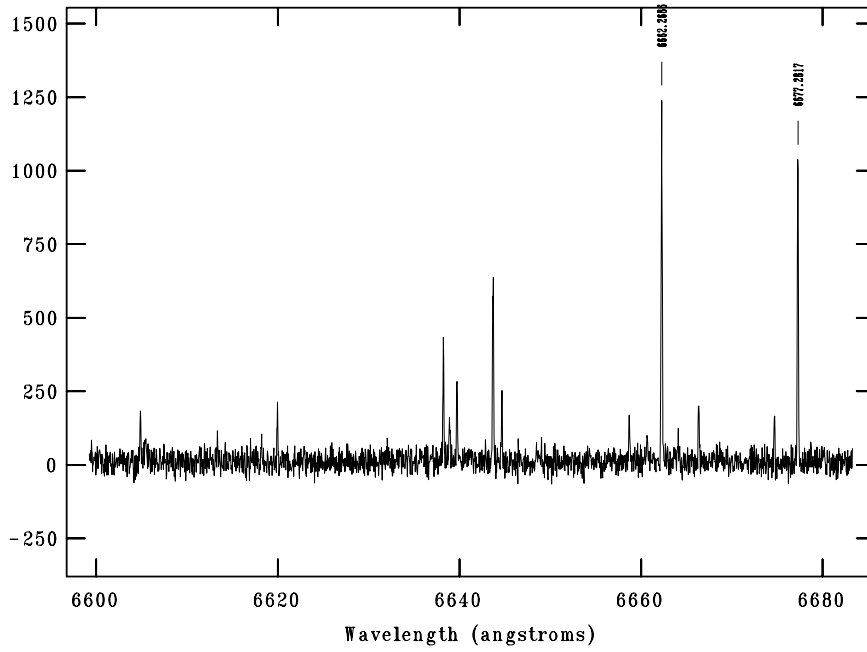
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:25 17-Nov-20  
Aperture 56, Image line 56, Order 88  
eidentify master\_waveref: Master wavelength calibration



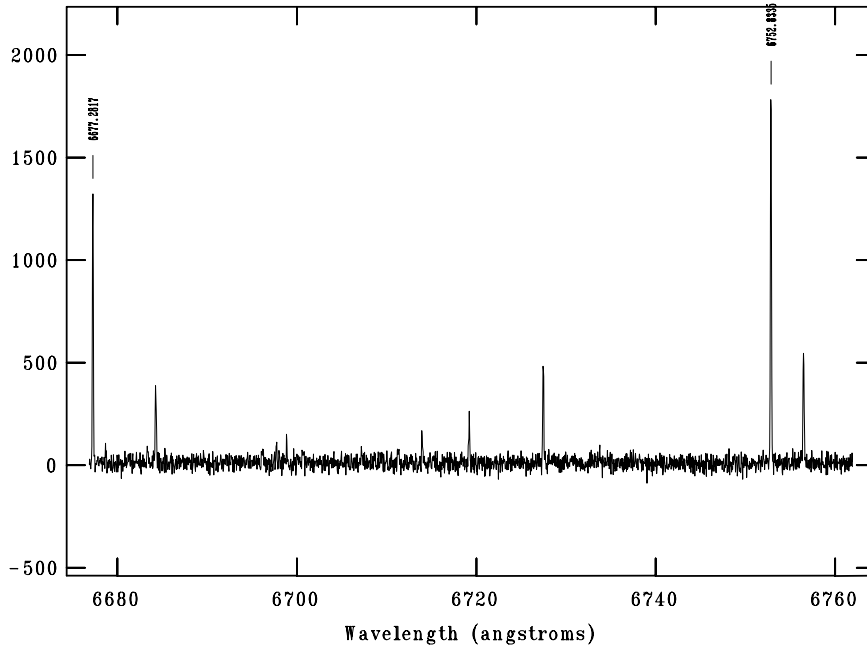
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:27 17-Nov-20  
Aperture 57, Image line 57, Order 87  
eidentify master\_waveref: Master wavelength calibration



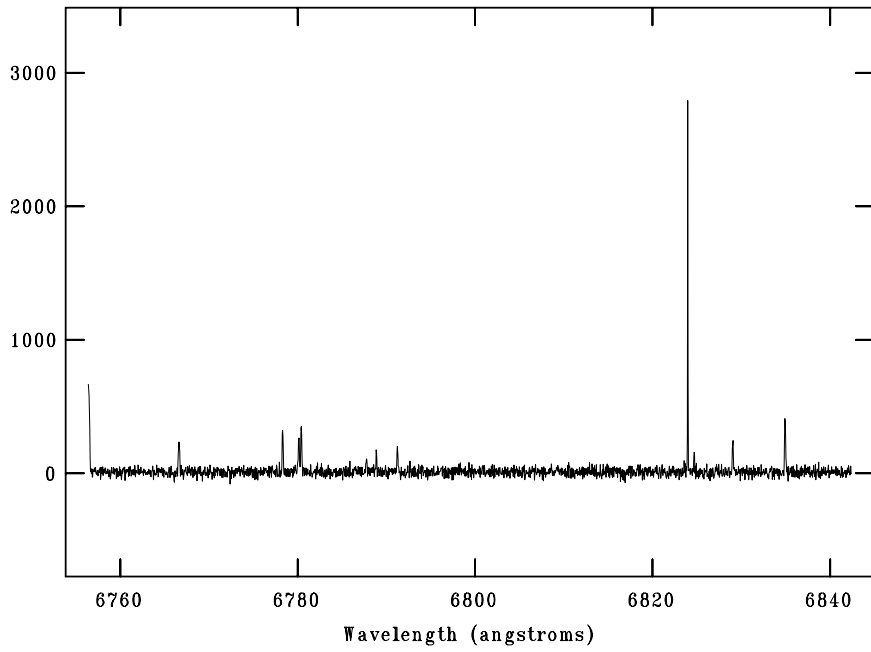
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:30 17-Nov-20  
Aperture 58, Image line 58, Order 86  
eidentify master\_waveref: Master wavelength calibration



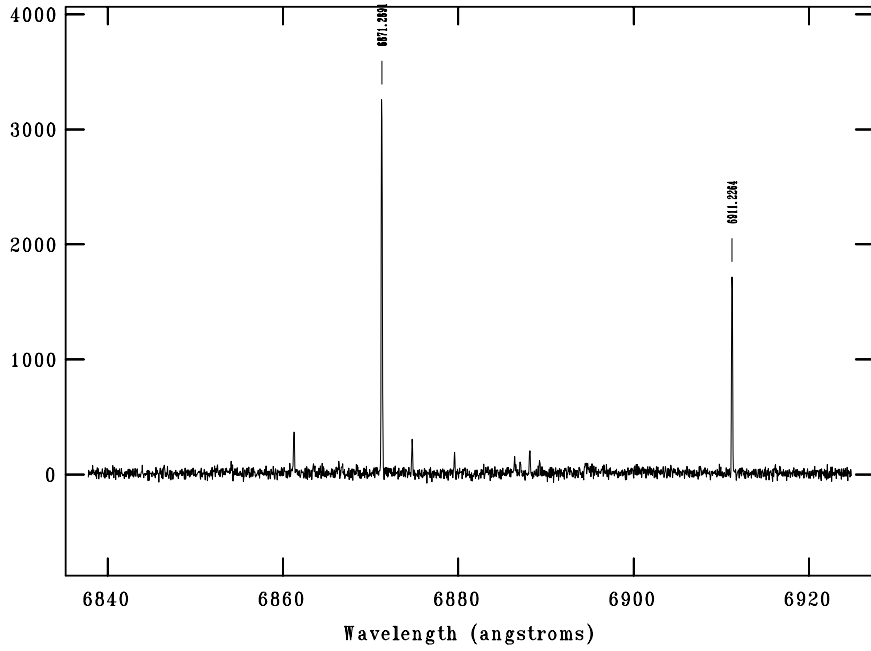
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:34 17-Nov-20  
Aperture 59, Image line 59, Order 85  
eidentify master\_waveref: Master wavelength calibration



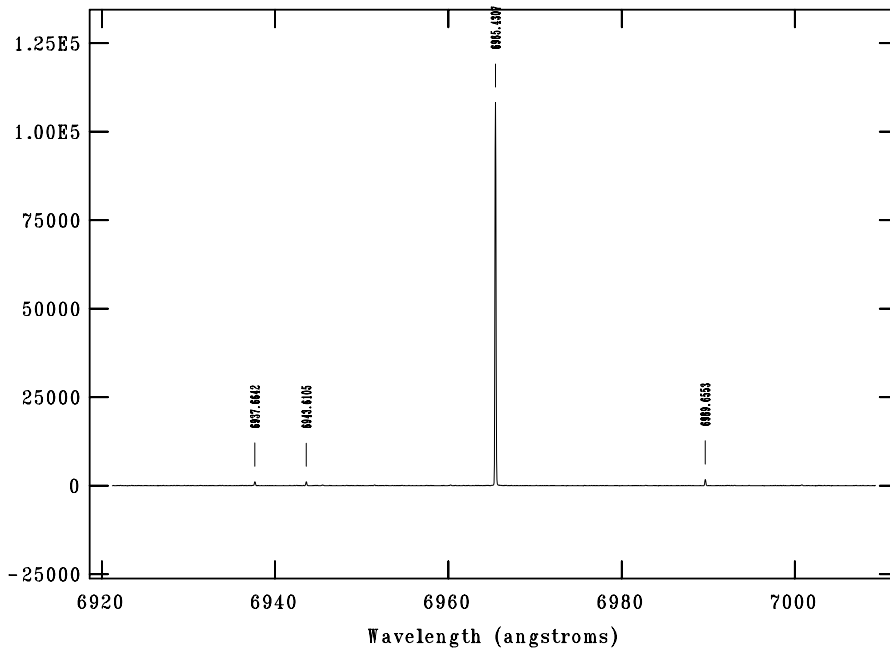
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:36 17-Nov-20  
Aperture 60, Image line 60, Order 84  
eidentify master\_waveref: Master wavelength calibration



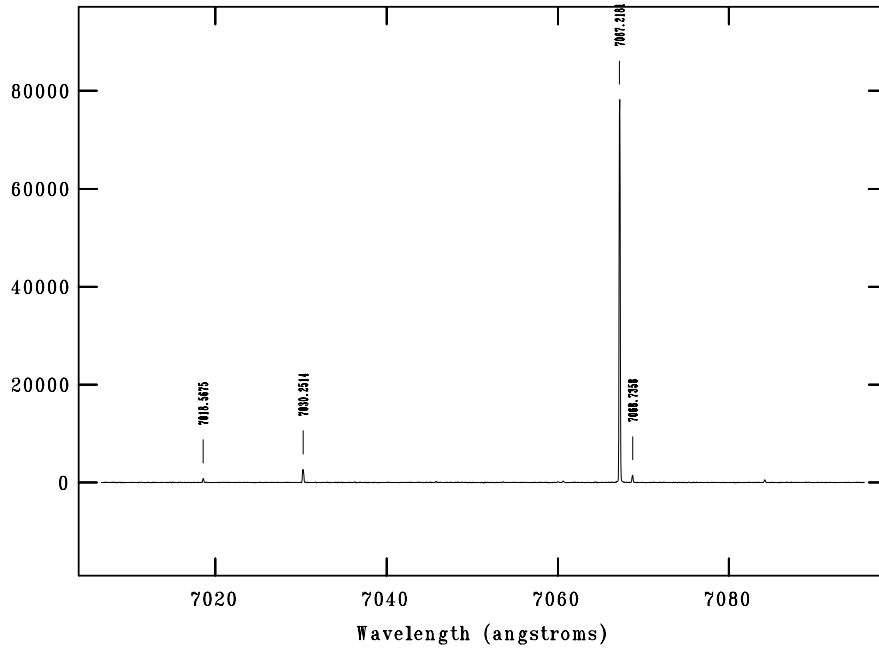
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:40 17-Nov-20  
Aperture 61, Image line 61, Order 83  
eidentify master\_waveref: Master wavelength calibration



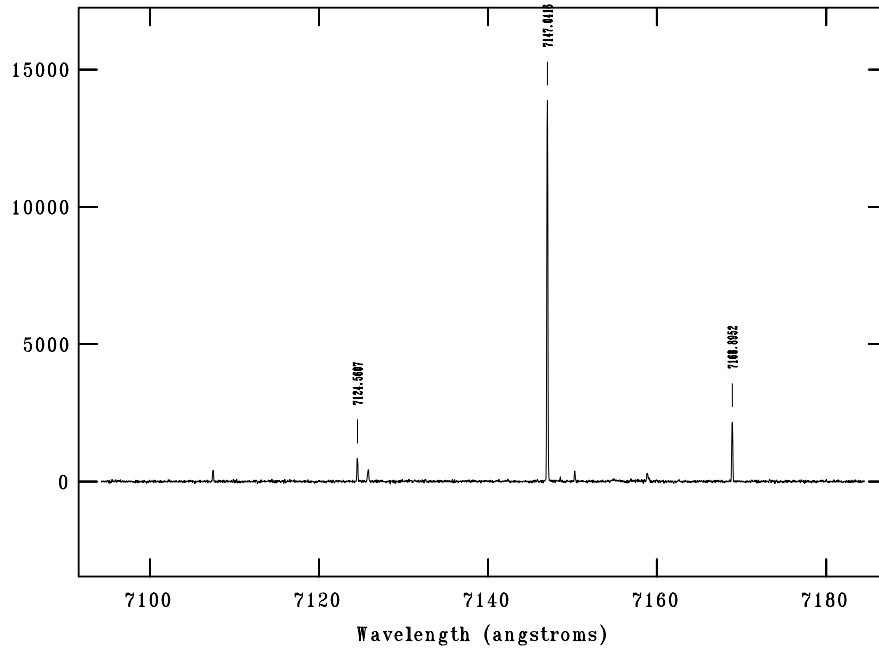
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:43 17-Nov-20  
Aperture 62, Image line 62, Order 82  
eidentify master\_waveref: Master wavelength calibration



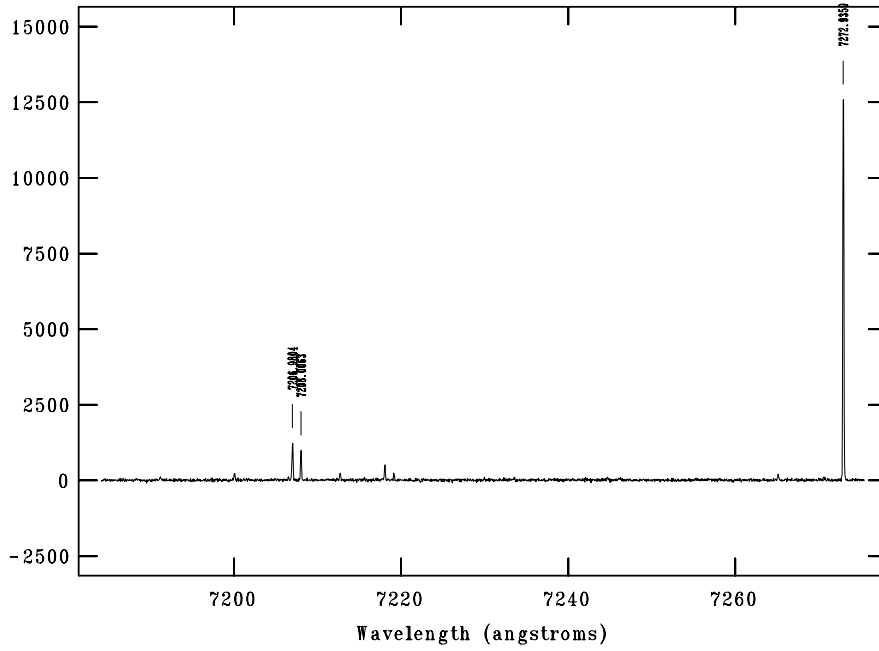
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:46 17-Nov-20  
Aperture 63, Image line 63, Order 81  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:49 17-Nov-20  
Aperture 64, Image line 64, Order 80  
eidentify master\_waveref: Master wavelength calibration

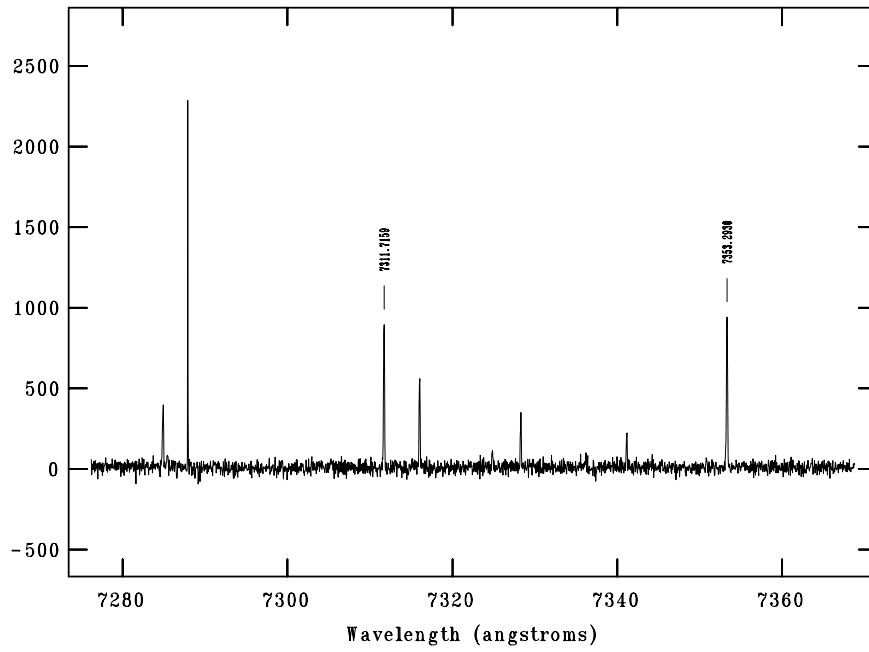


NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:52 17-Nov-20  
Aperture 65, Image line 65, Order 79  
eidentify master\_waveref: Master wavelength calibration

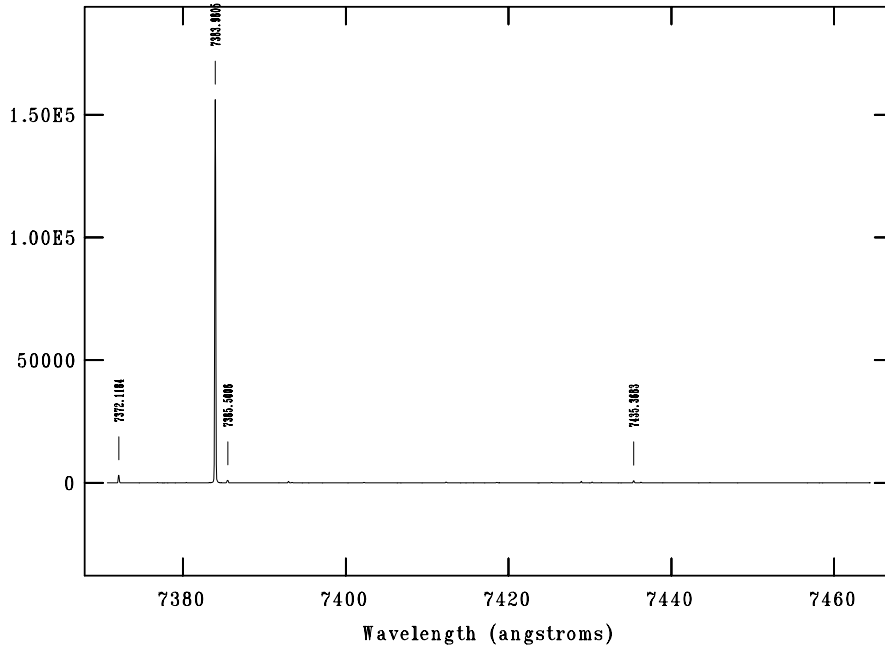




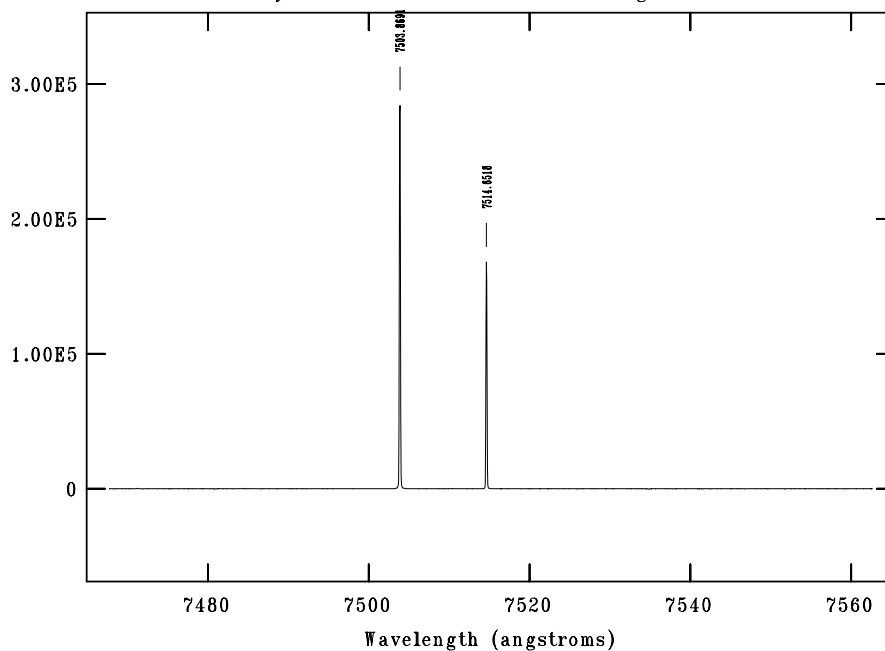
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:16:56 17-Nov-20  
Aperture 66, Image line 66, Order 78  
eidentify master\_waveref: Master wavelength calibration



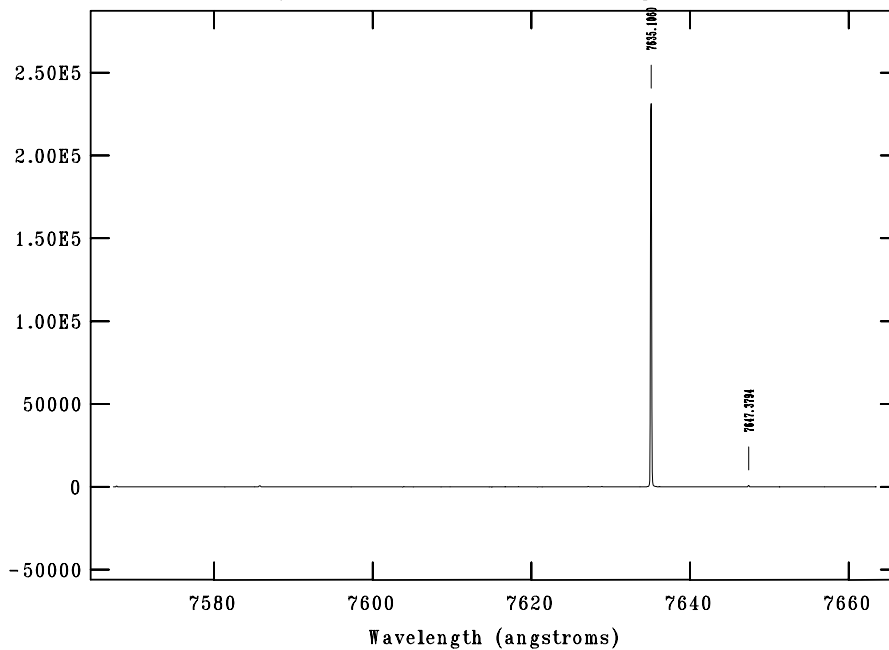
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:02 17-Nov-20  
Aperture 67, Image line 67, Order 77  
eidentify master\_waveref: Master wavelength calibration



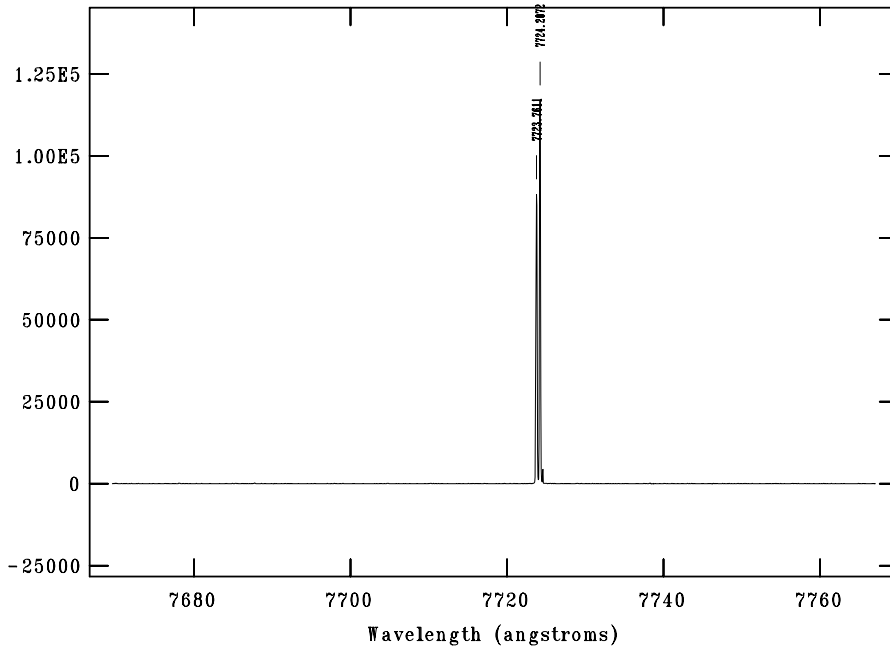
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:05 17-Nov-20  
Aperture 68, Image line 68, Order 76  
ecidentify master\_waveref: Master wavelength calibration



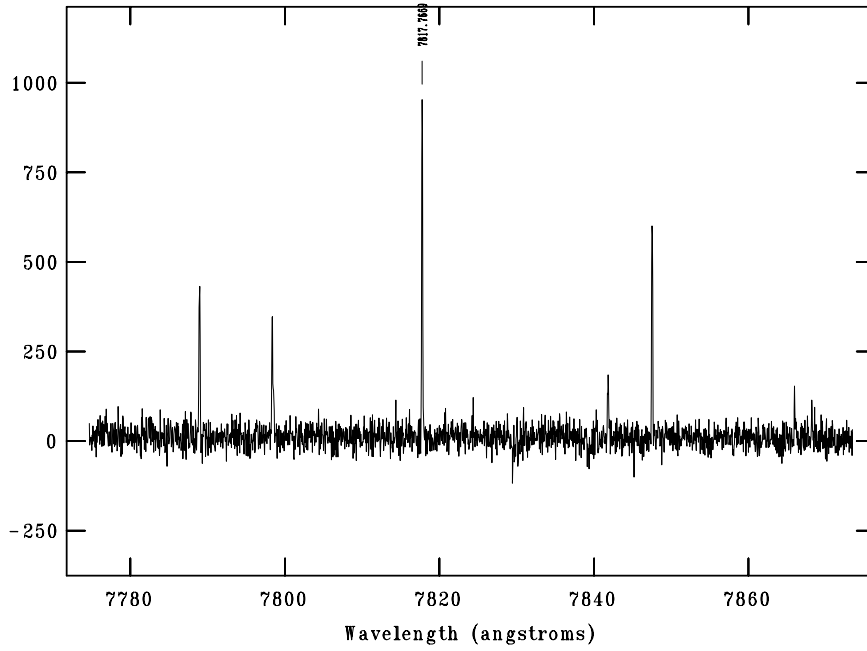
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:08 17-Nov-20  
Aperture 69, Image line 69, Order 75  
ecidentify master\_waveref: Master wavelength calibration



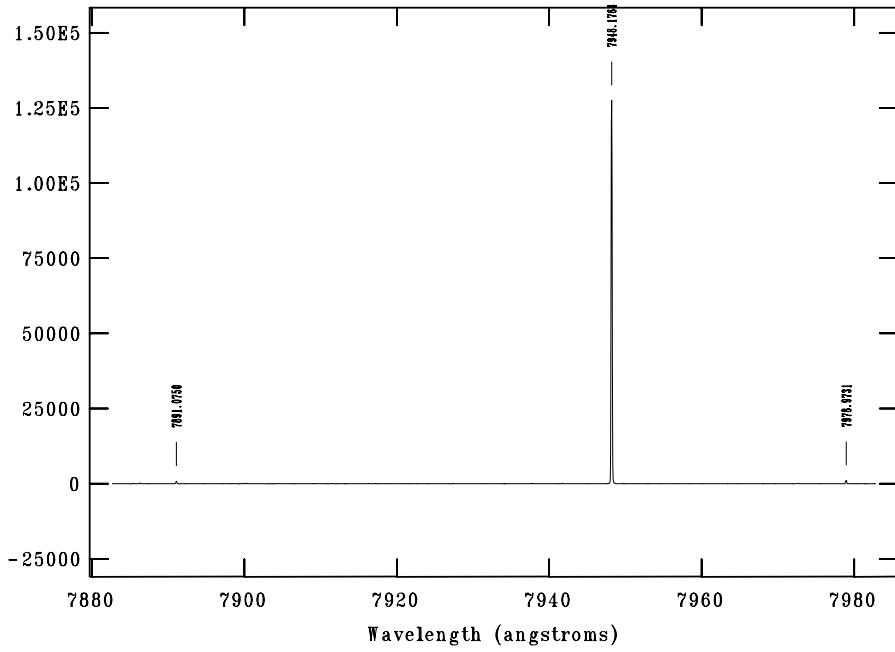
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:11 17-Nov-20  
Aperture 70, Image line 70, Order 74  
eidentify master\_waveref: Master wavelength calibration



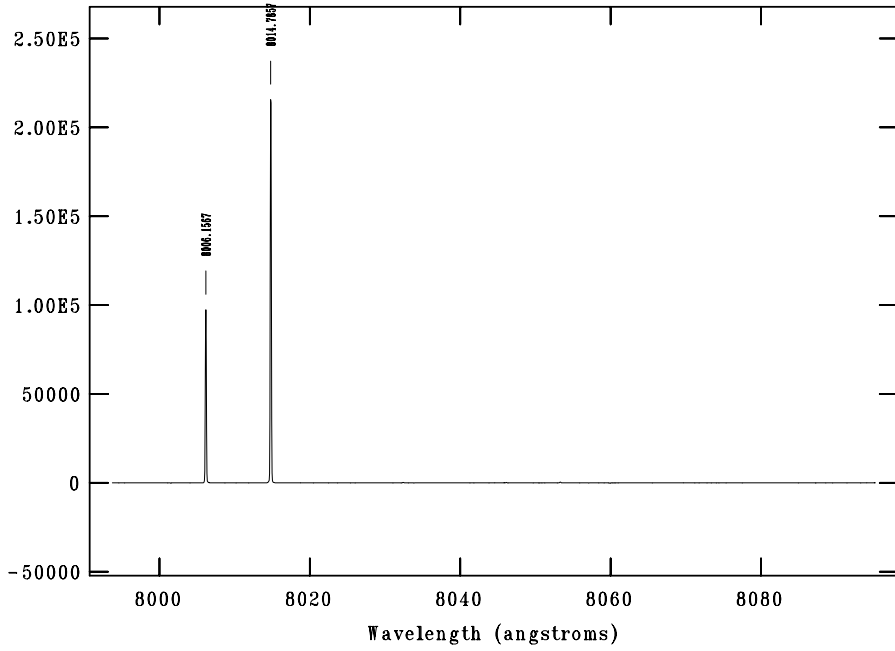
NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:14 17-Nov-20  
Aperture 71, Image line 71, Order 73  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:18 17-Nov-20  
Aperture 72, Image line 72, Order 72  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:21 17-Nov-20  
Aperture 73, Image line 73, Order 71  
eidentify master\_waveref: Master wavelength calibration



NOAO/IRAF V2.12.2-EXPORT stempels@fiona.not.iac.es Thu 12:17:26 17-Nov-20  
Aperture 74, Image line 74, Order 70  
eidentify master\_waveref: Master wavelength calibration

