

## 1. Additional tables

**Table 1.** Fe II and Si II velocities of the type Ic-BL SNe analysed here.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
1997ef	65	0.011805	1997-12-24 10:33:36.00	34.04	$12106^{+503}_{-421}$	$5073^{+555}_{-453}$
1997ef	80	0.011805	1997-12-29 07:12:00.00	38.84	$13240^{+368}_{-603}$	$3845^{+467}_{-358}$
1997ef	63	0.011805	1997-11-26 09:21:36.00	6.32	$28533^{+2597}_{-1876}$	$22417^{+1347}_{-450}$
1997ef	63	0.011805	1997-12-04 08:09:36.00	14.17	$18127^{+1059}_{-1352}$	$16192^{+467}_{-708}$
1997ef	65	0.011805	1997-12-23 10:19:12.00	33.04	$12341^{+515}_{-463}$	$5559^{+337}_{-237}$
1997ef	121	0.011805	1997-12-30 08:24:00.00	39.88		$4283^{+1249}_{-1039}$
1997ef	67	0.011805	1998-01-20 05:31:12.00	60.52	$9031^{+537}_{-548}$	
1997ef	65	0.011805	1998-01-01 07:40:48.00	41.83	$12322^{+303}_{-309}$	$3069^{+235}_{-278}$
1997ef	63	0.011805	1997-12-05 07:26:24.00	15.13	$18815^{+258}_{-306}$	$16012^{+348}_{-429}$
1997ef	60	0.011805	1998-01-17 09:41:46.00	57.72		
1997ef	63	0.011805	1997-12-01 08:09:36.00	11.21	$23833^{+2305}_{-1063}$	$18632^{+529}_{-739}$
1997ef	100	0.011805	1997-11-28 12:57:36.00	8.44	$24762^{+593}_{-646}$	$20867^{+570}_{-622}$
1997ef	153	0.011805	1998-01-17 00:00:00.00	57.32	$9704^{+270}_{-321}$	
1997ef	100	0.011805	1997-11-30 08:24:00.00	10.23	$22900^{+1698}_{-1343}$	$19085^{+347}_{-355}$
1997ef	31	0.011805	1997-12-20 00:00:00.00	29.65	$12893^{+80}_{-66}$	$6905^{+75}_{-78}$
1997ef	63	0.011805	1997-12-20 00:00:00.00	29.65	$12846^{+59}_{-55}$	$6922^{+67}_{-64}$
1997ef	63	0.011805	1998-01-06 08:24:00.00	46.80	$9011^{+397}_{-347}$	
1997ef	90	0.011805	1998-01-03 06:14:24.00	43.74	$11721^{+1829}_{-983}$	$4412^{+470}_{-548}$
1997ef	67	0.011805	1998-01-24 06:28:48.00	64.51	$8631^{+1109}_{-2459}$	
1997ef	63	0.011805	1997-11-29 10:19:12.00	9.32	$24629^{+351}_{-350}$	$20616^{+786}_{-1308}$
1997ef	73	0.011805	1998-01-26 06:14:24.00	66.48	$5551^{+336}_{-269}$	
1997ef	71	0.011805	1997-12-05 09:50:24.00	15.23	$19032^{+435}_{-446}$	$13814^{+234}_{-221}$
1997ef	65	0.011805	1997-12-26 09:36:00.00	35.98	$11272^{+2046}_{-728}$	$3745^{+543}_{-364}$
1997ef	133	0.011805	1998-03-26 06:10:05.00	124.78	$5086^{+83}_{-83}$	$13532^{+148}_{-147}$
1997ef	100	0.011805	1997-12-27 12:28:48.00	37.08	$11970^{+1663}_{-2842}$	$4378^{+366}_{-373}$
1997ef	100	0.011805	1997-12-06 08:09:36.00	16.15	$16455^{+1105}_{-854}$	$13103^{+322}_{-265}$
1997ef	87	0.011805	1998-01-28 06:05:46.00	68.45	$7248^{+380}_{-314}$	$13289^{+62}_{-62}$
1997ef	71	0.011805	1998-01-28 05:02:24.00	68.40	$7728^{+480}_{-650}$	
1997ef	173	0.011805	1998-01-28 00:00:00.00	68.19	$7067^{+371}_{-382}$	
1997dq	63	0.003196	1997-11-22 12:57:36.00	54.37	$6050^{+107}_{-94}$	$13046^{+61}_{-51}$
1997dq	65	0.003196	1998-01-01 13:12:00.00	94.25	$5200^{+56}_{-56}$	$12198^{+69}_{-68}$
1997dq	65	0.003196	1997-12-31 00:00:00.00	92.70	$5200^{+52}_{-48}$	$12197^{+69}_{-68}$
1997dq	63	0.003196	1997-12-20 00:00:00.00	81.74	$6059^{+21}_{-27}$	$12209^{+15}_{-15}$
1997dq	63	0.003196	1997-11-25 12:57:36.00	57.36	$5959^{+83}_{-85}$	$12995^{+55}_{-58}$
1997dq	63	0.003196	1997-12-04 12:00:00.00	66.29	$5798^{+93}_{-96}$	$12837^{+73}_{-69}$
1997dq	181	0.003196	1997-11-08 00:00:00.00	39.87	$6483^{+119}_{-112}$	$13674^{+71}_{-66}$
1997dq	63	0.003196	1997-11-29 12:57:36.00	61.34	$5859^{+67}_{-66}$	$12678^{+57}_{-43}$
1997dq	63	0.003196	1997-11-07 12:57:36.00	39.41	$6238^{+181}_{-171}$	$13987^{+75}_{-60}$
1997dq	73	0.003196	1997-12-05 12:57:36.00	67.32	$5901^{+115}_{-110}$	$12782^{+67}_{-77}$
1998ey	100	0.016	1998-12-21 00:00:00.00	18.06	$7542^{+1314}_{-927}$	$4238^{+442}_{-461}$
1998ey	63	0.016	1998-12-10 00:00:00.00	7.23		$10421^{+2019}_{-1579}$
1998ey	63	0.016	1998-12-25 00:00:00.00	22.00	$6711^{+450}_{-401}$	$2375^{+974}_{-989}$
1998ey	63	0.016	1998-12-12 00:00:00.00	9.20	$14652^{+892}_{-558}$	$9664^{+293}_{-333}$
1998ey	151	0.016	1998-12-19 00:00:00.00	16.09	$7425^{+1880}_{-1890}$	$5174^{+3459}_{-1515}$
1998ey	121	0.016	1998-12-17 00:00:00.00	14.12	$10156^{+4072}_{-1420}$	$6097^{+384}_{-393}$
2002ap	89	0.002108	2002-02-11 00:00:00.00	14.97	$24150^{+133}_{-129}$	$9425^{+80}_{-87}$
2002ap	61	0.002108	2002-03-07 00:00:00.00	38.92	$24895^{+647}_{-343}$	

**Table 1.** continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2002ap	50	0.002108	2002-02-06 02:38:24.00	10.09	24220 <sup>-97</sup> <sub>+97</sub>	15886 <sup>-147</sup> <sub>+127</sub>
2002ap	63	0.002108	2002-02-15 02:09:36.00	19.05	24555 <sup>-104</sup> <sub>+87</sub>	7559 <sup>-65</sup> <sub>+74</sub>
2002ap	63	0.002108	2002-02-13 02:24:00.00	17.06	24631 <sup>-95</sup> <sub>+99</sub>	8428 <sup>-79</sup> <sub>+78</sub>
2002ap	131	0.002108	2002-02-14 17:27:54.00	18.69	22935 <sup>-382</sup> <sub>+232</sub>	7784 <sup>-140</sup> <sub>+129</sub>
2002ap	63	0.002108	2002-02-07 02:09:36.00	11.07	23776 <sup>-94</sup> <sub>+86</sub>	15113 <sup>-157</sup> <sub>+149</sub>
2002ap	63	0.002108	2002-03-06 02:24:00.00	38.02	23911 <sup>-254</sup> <sub>+233</sub>	
2002ap	25	0.002108	2002-02-10 00:00:00.00	13.97	24587 <sup>-411</sup> <sub>+281</sub>	9797 <sup>-3014</sup> <sub>+550</sub>
2002ap	63	0.002108	2002-03-11 02:24:00.00	43.01	23682 <sup>-365</sup> <sub>+388</sub>	
2002ap	120	0.002108	2002-02-07 16:52:41.00	11.68	21404 <sup>-372</sup> <sub>+399</sub>	14939 <sup>-140</sup> <sub>+124</sub>
2002ap	63	0.002108	2002-02-08 01:55:12.00	12.05	23653 <sup>-120</sup> <sub>+119</sub>	15035 <sup>-77</sup> <sub>+80</sub>
2002ap	89	0.002108	2002-03-11 00:00:00.00	42.91	24979 <sup>-528</sup> <sub>+498</sub>	
2002ap	63	0.002108	2002-02-12 02:52:48.00	16.09	24669 <sup>-107</sup> <sub>+112</sub>	8820 <sup>-85</sup> <sub>+85</sub>
2002ap	63	0.002108	2002-02-09 02:38:24.00	13.08	23962 <sup>-131</sup> <sub>+128</sub>	14728 <sup>-89</sup> <sub>+87</sub>
2002ap	63	0.002108	2002-02-14 02:24:00.00	18.06	24879 <sup>-176</sup> <sub>+181</sub>	7618 <sup>-382</sup> <sub>+395</sub>
2002ap	83	0.002108	2002-02-14 00:00:00.00	17.96	24806 <sup>-119</sup> <sub>+134</sub>	7964 <sup>-36</sup> <sub>+39</sub>
2002ap	63	0.002108	2002-03-10 02:24:00.00	42.01	24108 <sup>-444</sup> <sub>+405</sub>	
2002ap	81	0.002108	2002-02-21 00:00:00.00	24.95		3654 <sup>-202</sup> <sub>+216</sub>
2002ap	50	0.002108	2002-02-15 00:00:00.00	18.96	25589 <sup>-578</sup> <sub>+579</sub>	6499 <sup>-336</sup> <sub>+407</sub>
2002ap	46	0.002108	2002-02-03 00:00:00.00	6.99	25292 <sup>-739</sup> <sub>+564</sub>	20033 <sup>-624</sup> <sub>+722</sub>
2002ap	25	0.002108	2002-02-17 00:00:00.00	20.96	24954 <sup>-397</sup> <sub>+372</sub>	4998 <sup>-457</sup> <sub>+405</sub>
2002ap	147	0.002108	2002-02-01 00:00:00.00	4.99	30210 <sup>-309</sup> <sub>+312</sub>	
2002ap	200	0.002108	2002-01-31 16:39:56.00	4.68	38186 <sup>-603</sup> <sub>+742</sub>	34411 <sup>-241</sup> <sub>+231</sub>
2002ap	63	0.002108	2002-02-20 02:09:36.00	24.04	24820 <sup>-159</sup> <sub>+137</sub>	5308 <sup>-130</sup> <sub>+183</sub>
2002ap	35	0.002108	2002-02-02 00:00:00.00	5.99	27114 <sup>-813</sup> <sub>+1122</sub>	21207 <sup>-274</sup> <sub>+301</sub>
2002ap	121	0.002108	2002-02-21 16:53:40.00	25.65		4432 <sup>-210</sup> <sub>+176</sub>
2002bl	121	0.016	2002-03-07 00:00:00.00	12.35	16884 <sup>-1467</sup> <sub>+1454</sub>	13909 <sup>-2128</sup> <sub>+1409</sub>
2002bl	61	0.016	2002-03-07 00:00:00.00	12.35	18440 <sup>-208</sup> <sub>+180</sub>	15520 <sup>-48</sup> <sub>+63</sub>
2002bl	89	0.016	2002-03-11 00:00:00.00	16.29	18190 <sup>-626</sup> <sub>+470</sub>	10036 <sup>-479</sup> <sub>+564</sub>
2003bg	43	0.004403	2003-03-31 00:00:00.00	33.85	6737 <sup>-89</sup> <sub>+81</sub>	3402 <sup>-39</sup> <sub>+42</sub>
2003bg	45	0.004403	2003-04-04 00:00:00.00	37.83	5766 <sup>-90</sup> <sub>+55</sub>	3074 <sup>-49</sup> <sub>+0</sub>
2003bg	25	0.004403	2003-04-09 00:00:00.00	42.81	5997 <sup>-114</sup> <sub>+128</sub>	3353 <sup>-44</sup> <sub>+37</sub>
2003bg	20	0.004403	2003-04-10 00:00:00.00	43.81	5745 <sup>-59</sup> <sub>+34</sub>	3493 <sup>-52</sup> <sub>+52</sub>
2003bg	45	0.004403	2003-03-12 00:00:00.00	14.93	12109 <sup>-76</sup> <sub>+78</sub>	4718 <sup>-30</sup> <sub>+29</sub>
2003bg	45	0.004403	2003-03-04 00:00:00.00	6.97	15116 <sup>-855</sup> <sub>+582</sub>	8181 <sup>-48</sup> <sub>+45</sub>
2003bg	79	0.004403	2003-02-28 00:00:00.00	2.99	25092 <sup>-220</sup> <sub>+215</sub>	19631 <sup>-433</sup> <sub>+514</sub>
2003jd	100	0.01886	2003-11-27 03:50:24.00	36.96	12428 <sup>-328</sup> <sub>+379</sub>	6640 <sup>-251</sup> <sub>+296</sub>
2003jd	100	0.01886	2003-11-19 03:21:36.00	29.09	12744 <sup>-866</sup> <sub>+1874</sub>	7674 <sup>-416</sup> <sub>+375</sub>
2003jd	100	0.01886	2003-11-23 00:00:00.00	32.88	12333 <sup>-846</sup> <sub>+1595</sub>	7257 <sup>-241</sup> <sub>+220</sub>
2003jd	65	0.01886	2003-12-20 02:09:36.00	59.47	11317 <sup>-68</sup> <sub>+74</sub>	6078 <sup>-279</sup> <sub>+309</sub>
2003jd	100	0.01886	2003-11-23 02:52:48.00	33.00	13898 <sup>-640</sup> <sub>+932</sub>	7212 <sup>-388</sup> <sub>+393</sub>
2003jd	89	0.01886	2003-10-28 00:00:00.00	7.36	22332 <sup>-1059</sup> <sub>+1177</sub>	
2003jd	63	0.01886	2003-12-22 01:55:12.00	61.42	11640 <sup>-605</sup> <sub>+1091</sub>	8338 <sup>-259</sup> <sub>+246</sub>
2003jd	63	0.01886	2003-10-28 07:40:48.00	7.68	19129 <sup>-688</sup> <sub>+787</sub>	
2003jd	100	0.01886	2003-12-25 03:50:24.00	64.44	10019 <sup>-519</sup> <sub>+508</sub>	5433 <sup>-1411</sup> <sub>+938</sub>
2003jd	79	0.01886	2003-11-29 00:00:00.00	38.77	11523 <sup>-182</sup> <sub>+190</sub>	6725 <sup>-93</sup> <sub>+85</sub>
2003jd	63	0.01886	2003-11-24 02:38:24.00	33.97	12914 <sup>-825</sup> <sub>+1739</sub>	7419 <sup>-461</sup> <sub>+406</sub>
2003jd	120	0.01886	2003-11-28 01:55:12.00	37.87	8180 <sup>-1640</sup> <sub>+963</sub>	6302 <sup>-674</sup> <sub>+554</sub>
2003jd	100	0.01886	2003-12-20 02:09:36.00	59.47	10828 <sup>-751</sup> <sub>+1299</sub>	6285 <sup>-1240</sup> <sub>+1389</sub>
2003jd	63	0.01886	2003-11-01 04:33:36.00	11.47	16684 <sup>-1030</sup> <sub>+428</sub>	13766 <sup>-354</sup> <sub>+436</sub>

**Table 1.** continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2003jd	65	0.01886	2003-12-19 03:07:12.00	58.53	11224 <sup>-153</sup> <sub>+172</sub>	5604 <sup>-337</sup> <sub>+277</sub>
2003jd	63	0.01886	2003-11-20 03:36:00.00	30.08	13609 <sup>-571</sup> <sub>+3189</sub>	7741 <sup>-258</sup> <sub>+250</sub>
2003jd	100	0.01886	2003-11-21 03:36:00.00	31.06	12639 <sup>-526</sup> <sub>+3619</sub>	7259 <sup>-268</sup> <sub>+260</sub>
2003jd	63	0.01886	2003-12-18 01:55:12.00	57.50	11996 <sup>-332</sup> <sub>+404</sub>	5404 <sup>-725</sup> <sub>+433</sub>
2003jd	63	0.01886	2003-10-29 04:19:12.00	8.52	17297 <sup>-400</sup> <sub>+315</sub>	14112 <sup>-265</sup> <sub>+243</sub>
2003jd	100	0.01886	2003-12-04 04:04:48.00	43.84	10877 <sup>-707</sup> <sub>+634</sub>	6201 <sup>-270</sup> <sub>+257</sub>
2003jd	100	0.01886	2003-10-30 04:33:36.00	9.51	17420 <sup>-278</sup> <sub>+228</sub>	14178 <sup>-243</sup> <sub>+251</sub>
2003jd	100	0.01886	2003-12-17 01:55:12.00	56.51	5287 <sup>-678</sup> <sub>+1189</sub>	6242 <sup>-1716</sup> <sub>+1220</sub>
2003jd	63	0.01886	2003-10-31 05:02:24.00	10.51	17986 <sup>-2301</sup> <sub>+2269</sub>	14725 <sup>-608</sup> <sub>+750</sub>
2003jd	63	0.01886	2003-11-22 03:36:00.00	32.05	9848 <sup>-2931</sup> <sub>+986</sub>	7582 <sup>-144</sup> <sub>+151</sub>
2005da	67	0.01501	2005-07-28 08:38:24.00	11.82	25404 <sup>-383</sup> <sub>+365</sub>	19165 <sup>-334</sup> <sub>+441</sub>
2005da	100	0.01501	2005-07-26 06:28:48.00	9.76	25453 <sup>-358</sup> <sub>+370</sub>	18893 <sup>-430</sup> <sub>+848</sub>
2005da	61	0.01501	2005-08-01 09:08:38.00	15.78	25572 <sup>-188</sup> <sub>+194</sub>	18632 <sup>-257</sup> <sub>+224</sub>
2005da	61	0.01501	2005-07-29 06:14:24.00	12.71	25121 <sup>-531</sup> <sub>+491</sub>	19689 <sup>-414</sup> <sub>+507</sub>
2006nx	43	0.137	2006-11-24 00:00:00.00	11.25	16072 <sup>-723</sup> <sub>+778</sub>	14362 <sup>-551</sup> <sub>+750</sub>
2006nx	49	0.137	2006-11-17 00:00:04.00	5.09	22849 <sup>-3104</sup> <sub>+1163</sub>	15806 <sup>-655</sup> <sub>+1444</sub>
2007I	100	0.021638	2007-01-16 12:14:24.00	3.98	15380 <sup>-788</sup> <sub>+1272</sub>	13121 <sup>-528</sup> <sub>+1035</sub>
2007I	67	0.021638	2007-01-26 09:36:00.00	13.66	12278 <sup>-932</sup> <sub>+1226</sub>	6426 <sup>-501</sup> <sub>+390</sub>
2007I	75	0.021638	2007-01-21 11:12:28.00	8.84	13518 <sup>-137</sup> <sub>+149</sub>	9009 <sup>-196</sup> <sub>+231</sub>
2007I	100	0.021638	2007-01-21 12:43:12.00	8.90	11535 <sup>-2097</sup> <sub>+1648</sub>	8725 <sup>-819</sup> <sub>+771</sub>
2007ru	67	0.015464	2007-12-03 03:21:36.00	7.52	22987 <sup>-450</sup> <sub>+475</sub>	19976 <sup>-320</sup> <sub>+492</sub>
2007ru	67	0.015464	2007-12-06 02:24:00.00	10.44	21946 <sup>-415</sup> <sub>+417</sub>	18669 <sup>-547</sup> <sub>+522</sub>
2007ru	151	0.015464	2007-12-01 03:28:47.00	5.56	22414 <sup>-523</sup> <sub>+513</sub>	
2007ru	67	0.015464	2008-01-11 06:00:00.00	46.04	13128 <sup>-279</sup> <sub>+288</sub>	9450 <sup>-108</sup> <sub>+117</sub>
2007ru	89	0.015464	2007-12-11 02:54:14.00	15.38	17276 <sup>-978</sup> <sub>+536</sub>	16436 <sup>-165</sup> <sub>+168</sub>
2007D	75	0.023146	2007-01-21 08:54:14.00	15.71	21660 <sup>-857</sup> <sub>+703</sub>	11782 <sup>-548</sup> <sub>+531</sub>
2007D	73	0.023146	2007-01-13 10:30:43.00	7.95	22635 <sup>-556</sup> <sub>+661</sub>	14969 <sup>-351</sup> <sub>+365</sub>
2007D	151	0.023146	2007-02-16 06:54:43.00	41.04	19015 <sup>-305</sup> <sub>+296</sub>	12688 <sup>-222</sup> <sub>+211</sub>
2007D	100	0.023146	2007-01-15 03:36:00.00	9.63	25466 <sup>-1384</sup> <sub>+1177</sub>	15161 <sup>-478</sup> <sub>+489</sub>
2007ce	67	0.046	2007-05-11 04:48:00.00	29.73	10888 <sup>-725</sup> <sub>+2203</sub>	11857 <sup>-783</sup> <sub>+2722</sub>
2007ce	67	0.046	2007-05-09 05:02:24.00	27.83	12728 <sup>-390</sup> <sub>+315</sub>	11864 <sup>-607</sup> <sub>+496</sub>
2007ce	67	0.046	2007-06-10 05:16:48.00	58.43	8114 <sup>-653</sup> <sub>+800</sub>	
2007ce	67	0.046	2007-05-19 04:48:00.00	37.38	9408 <sup>-728</sup> <sub>+967</sub>	5995 <sup>-2305</sup> <sub>+582</sub>
2007ce	100	0.046	2007-05-25 05:31:12.00	43.15	8584 <sup>-476</sup> <sub>+594</sub>	6072 <sup>-657</sup> <sub>+837</sub>
2007ce	67	0.046	2007-05-21 04:48:00.00	39.29	7792 <sup>-2464</sup> <sub>+977</sub>	5690 <sup>-728</sup> <sub>+1254</sub>
2007ce	100	0.046	2007-05-13 04:19:12.00	31.63	10269 <sup>-1000</sup> <sub>+738</sub>	9493 <sup>-882</sup> <sub>+977</sub>
2007ce	89	0.046	2007-05-24 07:55:12.00	42.28	6547 <sup>-2068</sup> <sub>+1916</sub>	7023 <sup>-318</sup> <sub>+336</sub>
2007ce	67	0.046	2007-05-17 04:19:12.00	35.45	8259 <sup>-309</sup> <sub>+290</sub>	6511 <sup>-1486</sup> <sub>+857</sub>
2008ew	91	0.02026	2008-08-26 04:35:02.00	17.61	8167 <sup>-1411</sup> <sub>+1473</sub>	8948 <sup>-199</sup> <sub>+212</sub>
2008ew	91	0.02026	2008-09-07 05:03:50.00	29.40	14404 <sup>-1889</sup> <sub>+1896</sub>	7889 <sup>-510</sup> <sub>+460</sub>
2008ew	181	0.02026	2008-09-22 04:36:28.00	44.08	11860 <sup>-2712</sup> <sub>+2529</sub>	10273 <sup>-1226</sup> <sub>+2514</sub>
2008ew	171	0.02026	2008-09-30 03:47:31.00	51.89	6196 <sup>-2998</sup> <sub>+2530</sub>	12418 <sup>-1163</sup> <sub>+1655</sub>
2009bb	101	0.0104	2009-04-18 01:55:12.00	29.67	22954 <sup>-1172</sup> <sub>+1389</sub>	11629 <sup>-250</sup> <sub>+260</sub>
2009bb	25	0.0104	2009-04-26 07:26:24.00	37.82	22807 <sup>-442</sup> <sub>+487</sub>	
2009bb	77	0.0104	2009-04-26 00:00:00.00	37.51	23014 <sup>-320</sup> <sub>+277</sub>	8656 <sup>-265</sup> <sub>+238</sub>
2009bb	33	0.0104	2009-04-07 23:55:29.00	19.69	25454 <sup>-247</sup> <sub>+249</sub>	15829 <sup>-207</sup> <sub>+326</sub>
2009bb	45	0.0104	2009-03-29 02:24:00.00	9.90	29641 <sup>-1944</sup> <sub>+765</sub>	24786 <sup>-282</sup> <sub>+291</sub>
2009bb	25	0.0104	2009-04-15 07:26:24.00	26.93		9907 <sup>-1155</sup> <sub>+912</sub>
2009bb	45	0.0104	2009-03-28 04:33:36.00	9.00	33286 <sup>-385</sup> <sub>+710</sub>	25991 <sup>-358</sup> <sub>+358</sub>

Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2009bb	71	0.0104	2009-05-01 01:55:12.00	42.54	23092 <sup>-207</sup> <sub>+202</sub>	8584 <sup>-222</sup> <sub>+189</sub>
2009bb	33	0.0104	2009-05-14 00:43:12.00	55.35	22124 <sup>-546</sup> <sub>+1343</sub>	7209 <sup>-243</sup> <sub>+173</sub>
2009bb	71	0.0104	2009-04-30 03:07:12.00	41.60	23083 <sup>-290</sup> <sub>+282</sub>	8969 <sup>-209</sup> <sub>+203</sub>
2009bb	51	0.0104	2009-04-22 01:55:12.00	33.63	23005 <sup>-393</sup> <sub>+427</sub>	10348 <sup>-843</sup> <sub>+521</sub>
2009bb	33	0.0104	2009-04-07 00:00:00.00	18.71	25437 <sup>-259</sup> <sub>+258</sub>	15757 <sup>-238</sup> <sub>+362</sub>
2009bb	45	0.0104	2009-04-07 00:00:00.00	18.71		
2009bb	71	0.0104	2009-04-17 02:24:00.00	28.70	24062 <sup>-158</sup> <sub>+165</sub>	12166 <sup>-785</sup> <sub>+555</sub>
2009bb	60	0.0104	2009-04-03 03:21:36.00	14.89	25654 <sup>-230</sup> <sub>+245</sub>	20940 <sup>-182</sup> <sub>+180</sub>
2009bb	51	0.0104	2009-04-15 07:26:24.00	26.93	23540 <sup>-258</sup> <sub>+267</sub>	
2009bb	51	0.0104	2009-04-23 02:38:24.00	34.65	23213 <sup>-434</sup> <sub>+436</sub>	9726 <sup>-2823</sup> <sub>+634</sub>
2009bb	45	0.0104	2009-05-14 00:43:12.00	55.35		
2009dr	81	0.199	2009-05-02 07:44:29.00	14.24	13918 <sup>-270</sup> <sub>+294</sub>	17837 <sup>-731</sup> <sub>+1061</sub>
2009dr	55	0.199	2009-04-27 08:40:39.00	10.10	14599 <sup>-155</sup> <sub>+139</sub>	
2009dr	55	0.199	2009-05-20 10:46:46.00	29.36	12948 <sup>-269</sup> <sub>+391</sub>	17448 <sup>-219</sup> <sub>+253</sub>
2009ca	71	0.0957	2009-04-17 08:23:59.00	20.98	12706 <sup>-221</sup> <sub>+232</sub>	8290 <sup>-150</sup> <sub>+148</sub>
2009ca	51	0.0957	2009-04-22 08:52:48.00	25.56	11977 <sup>-739</sup> <sub>+870</sub>	7903 <sup>-436</sup> <sub>+507</sub>
2009ca	33	0.0957	2009-04-07 10:04:48.00	11.92	13736 <sup>-190</sup> <sub>+186</sub>	
2009ca	45	0.0957	2009-04-07 10:04:48.00	11.92		9338 <sup>-275</sup> <sub>+282</sub>
PTF10vgv	61	0.015	2010-10-01 00:00:00.00	16.78	9339 <sup>-265</sup> <sub>+292</sub>	4514 <sup>-209</sup> <sub>+181</sub>
PTF10vgv	83	0.015	2010-09-16 00:00:00.00	2.00	15101 <sup>-1160</sup> <sub>+732</sub>	14690 <sup>-263</sup> <sub>+326</sub>
PTF10vgv	33	0.015	2010-09-27 00:00:00.00	12.84		8058 <sup>-214</sup> <sub>+190</sub>
PTF10gvb	51	0.098	2010-05-06 09:21:36.00	6.18	17789 <sup>-790</sup> <sub>+694</sub>	
PTF10gvb	21	0.098	2010-07-08 00:00:00.00	63.21	15812 <sup>-468</sup> <sub>+459</sub>	2392 <sup>-717</sup> <sub>+462</sub>
PTF10gvb	25	0.098	2010-07-08 00:00:00.00	63.21	18548 <sup>-282</sup> <sub>+268</sub>	9240 <sup>-213</sup> <sub>+210</sub>
PTF10gvb	27	0.098	2010-05-06 00:00:00.00	5.83		12727 <sup>-189</sup> <sub>+176</sub>
PTF10gvb	29	0.098	2010-05-15 00:00:00.00	14.03	19184 <sup>-172</sup> <sub>+188</sub>	8710 <sup>-65</sup> <sub>+111</sub>
PTF10gvb	133	0.098	2010-05-15 00:00:00.00	14.03	16221 <sup>-393</sup> <sub>+511</sub>	2417 <sup>-427</sup> <sub>+503</sub>
2010ah	137	0.0498	2010-03-01 00:00:00.00	7.62	16109 <sup>-389</sup> <sub>+421</sub>	
2010ah	65	0.0498	2010-03-07 00:00:00.00	13.34	6985 <sup>-484</sup> <sub>+538</sub>	6604 <sup>-332</sup> <sub>+291</sub>
2010ah	61	0.0498	2010-03-07 00:00:00.00	13.34	14391 <sup>-1363</sup> <sub>+1474</sub>	3635 <sup>-482</sup> <sub>+461</sub>
2010ah	181	0.0498	2010-03-01 00:00:00.00	7.62		10718 <sup>-345</sup> <sub>+529</sub>
PTF10qts	51	0.0907	2010-08-13 00:00:00.00	8.62	24773 <sup>-910</sup> <sub>+928</sub>	
PTF10qts	51	0.0907	2010-09-05 00:00:00.00	29.71	18789 <sup>-2346</sup> <sub>+1433</sub>	6618 <sup>-1131</sup> <sub>+1174</sub>
PTF10qts	41	0.0907	2010-09-05 00:00:00.00	29.71	25794 <sup>-628</sup> <sub>+587</sub>	8175 <sup>-885</sup> <sub>+825</sub>
PTF10qts	61	0.0907	2010-09-02 00:00:00.00	26.96	23068 <sup>-3479</sup> <sub>+2729</sub>	8300 <sup>-1082</sup> <sub>+1033</sub>
PTF10qts	35	0.0907	2010-09-02 00:00:00.00	26.96	16678 <sup>-831</sup> <sub>+1363</sub>	6625 <sup>-235</sup> <sub>+246</sub>
PTF10qts	267	0.0907	2010-08-15 00:00:00.00	10.45		10568 <sup>-455</sup> <sub>+360</sub>
PTF10qts	101	0.0907	2010-08-15 00:00:00.00	10.45	25504 <sup>-2144</sup> <sub>+1062</sub>	
PTF10qts	91	0.0907	2010-08-17 22:11:34.00	13.13	22826 <sup>-622</sup> <sub>+567</sub>	14333 <sup>-4401</sup> <sub>+2308</sub>
PTF10qts	66	0.0907	2010-09-09 00:00:00.00	33.37	23466 <sup>-608</sup> <sub>+764</sub>	
PTF10qts	121	0.0907	2010-09-09 00:00:00.00	33.37	24707 <sup>-3385</sup> <sub>+4841</sub>	10160 <sup>-1439</sup> <sub>+2566</sub>
PTF10xem	29	0.0567	2010-11-01 00:00:00.00	37.71	19362 <sup>-1471</sup> <sub>+583</sub>	8845 <sup>-425</sup> <sub>+435</sub>
PTF10xem	33	0.0567	2010-10-10 09:36:00.00	17.27		20102 <sup>-214</sup> <sub>+184</sub>
PTF10xem	51	0.0567	2010-10-11 00:00:00.00	17.84	21249 <sup>-583</sup> <sub>+565</sub>	16565 <sup>-266</sup> <sub>+220</sub>
PTF10tqv	66	0.0795	2010-09-02 00:00:00.00	17.44	21009 <sup>-2482</sup> <sub>+2256</sub>	5565 <sup>-1374</sup> <sub>+1001</sub>
PTF10tqv	101	0.0795	2010-11-01 00:00:00.00	73.02	19826 <sup>-4424</sup> <sub>+3487</sub>	
PTF10tqv	33	0.0795	2010-10-03 00:00:00.00	46.16	21596 <sup>-854</sup> <sub>+558</sub>	4892 <sup>-1269</sup> <sub>+921</sub>
PTF10aavz	33	0.062	2010-12-06 00:00:00.00	26.85	8198 <sup>-852</sup> <sub>+807</sub>	-641 <sup>-1248</sup> <sub>+1525</sub>
PTF10aavz	51	0.062	2010-11-30 00:00:00.00	21.21	21144 <sup>-1146</sup> <sub>+949</sub>	19712 <sup>-1007</sup> <sub>+939</sub>

Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
PTF10aavz	173	0.062	2010-12-13 00:00:00.00	33.45	$8875^{+695}_{-447}$	$299^{+250}_{-252}$
2010ay	91	0.0671	2010-03-22 10:48:00.00	27.32	$26036^{+912}_{-1037}$	$19533^{+868}_{-758}$
2010ay	121	0.0671	2010-04-01 00:00:00.00	36.27		$19577^{+496}_{-372}$
2010ay	135	0.0671	2010-04-11 09:36:00.00	46.01	$23867^{+848}_{-819}$	$21034^{+616}_{-607}$
PTF10ysd	101	0.0963	2010-10-30 00:00:00.00	31.47	$28845^{+671}_{-886}$	$14865^{+747}_{-631}$
PTF11qcj	143	0.028	2011-11-26 15:22:35.00	47.80	$5543^{+156}_{-149}$	$10173^{+151}_{-219}$
PTF11qcj	83	0.028	2011-11-07 00:00:00.00	28.70	$15128^{+777}_{-1050}$	$11620^{+266}_{-226}$
PTF11qcj	17	0.028	2011-11-05 06:37:10.00	27.02		$11457^{+189}_{-201}$
PTF11qcj	101	0.028	2011-12-31 00:00:00.00	81.23	$4679^{+546}_{-754}$	$6523^{+223}_{-196}$
PTF12gzk	147	0.01377	2012-08-13 14:01:53.00	21.00	$18325^{+170}_{-173}$	$14435^{+36}_{-63}$
PTF12gzk	25	0.01377	2012-08-18 06:26:32.00	25.62	$15929^{+141}_{-153}$	$11620^{+85}_{-127}$
PTF12gzk	71	0.01377	2012-09-25 04:46:33.00	63.03	$13936^{+616}_{-983}$	$8377^{+503}_{-567}$
PTF12gzk	59	0.01377	2012-07-28 10:46:15.00	5.08	$32039^{+609}_{-520}$	$24881^{+250}_{-288}$
PTF12gzk	173	0.01377	2012-08-19 10:58:04.00	26.79	$16884^{+150}_{-141}$	$11193^{+91}_{-96}$
PTF12gzk	147	0.01377	2012-09-23 12:50:51.00	61.39	$13571^{+580}_{-489}$	$7436^{+369}_{-322}$
PTF12gzk	101	0.01377	2012-09-23 07:36:28.00	61.17	$14510^{+240}_{-221}$	$6876^{+341}_{-288}$
PTF12gzk	87	0.01377	2012-07-27 00:00:00.00	3.65	$31656^{+257}_{-289}$	
PTF12gzk	101	0.01377	2012-08-12 16:12:15.00	20.10	$19421^{+420}_{-481}$	$15262^{+111}_{-112}$
PTF12gzk	25	0.01377	2012-08-09 02:32:40.00	16.58	$20301^{+109}_{-115}$	$17174^{+55}_{-77}$
PTF12gzk	121	0.01377	2012-09-18 05:55:40.00	56.17	$15061^{+114}_{-112}$	$7166^{+117}_{-112}$
PTF12gzk	159	0.01377	2012-08-09 00:00:00.00	16.47	$19203^{+85}_{-98}$	$16750^{+34}_{-37}$
PTF12gzk	43	0.01377	2012-08-08 00:00:00.00	15.49	$21124^{+92}_{-90}$	$17573^{+71}_{-65}$
PTF12gzk	109	0.01377	2012-08-10 00:00:00.00	17.46	$19700^{+156}_{-182}$	$16178^{+54}_{-51}$
PTF12gzk	43	0.01377	2012-08-06 00:00:00.00	13.51	$21527^{+228}_{-221}$	$17710^{+158}_{-174}$
PTF12gzk	147	0.01377	2012-08-10 14:26:53.00	18.05	$19558^{+158}_{-165}$	$16153^{+37}_{-60}$
PTF12gzk	23	0.01377	2012-08-25 03:37:54.00	32.41		$9123^{+198}_{-193}$
PTF12gzk	25	0.01377	2012-08-25 03:12:03.00	32.39	$16744^{+98}_{-96}$	$8915^{+124}_{-116}$
PTF12gzk	101	0.01377	2012-09-06 14:27:06.00	44.69	$16113^{+597}_{-578}$	$7637^{+127}_{-133}$
PTF12gzk	21	0.01377	2012-08-01 00:00:00.00	8.58	$31283^{+1457}_{-1537}$	$20122^{+713}_{-647}$
PTF12gzk	51	0.01377	2012-09-07 04:52:19.00	45.28	$16081^{+206}_{-190}$	$7948^{+75}_{-88}$
PTF12gzk	25	0.01377	2012-08-11 08:55:48.00	18.81	$18671^{+370}_{-217}$	$16150^{+69}_{-22}$
PTF12gzk	25	0.01377	2012-08-11 08:55:48.00	18.81	$18541^{+396}_{-206}$	$16102^{+46}_{-19}$
PTF12gzk	147	0.01377	2012-08-11 14:43:41.00	19.05	$19057^{+145}_{-136}$	$15571^{+53}_{-52}$
PTF12gzk	81	0.01377	2012-08-02 10:05:28.00	9.98	$24732^{+82}_{-78}$	$21378^{+73}_{-92}$
PTF12gzk	23	0.01377	2012-08-09 02:58:30.00	16.60		$17294^{+94}_{-63}$
PTF12gzk	25	0.01377	2012-09-10 03:42:01.00	48.19	$15488^{+78}_{-78}$	$7472^{+188}_{-171}$
PTF12gzk	25	0.01377	2012-09-10 04:07:35.00	48.21	$15939^{+257}_{-288}$	$7581^{+330}_{-328}$
PTF12gzk	25	0.01377	2012-09-16 03:53:05.00	54.12	$15245^{+110}_{-107}$	$7642^{+86}_{-98}$
PTF12gzk	89	0.01377	2012-08-12 08:31:12.00	19.78	$17979^{+106}_{-126}$	$15295^{+37}_{-43}$
PTF12gzk	147	0.01377	2012-09-07 13:30:20.00	45.63	$15920^{+310}_{-393}$	$7586^{+145}_{-154}$
PTF12gzk	87	0.01377	2012-08-23 10:30:43.00	30.72	$16306^{+104}_{-123}$	$9611^{+103}_{-82}$
2012ap	33	0.01224	2012-03-04 01:55:12.00	25.06		$8425^{+267}_{-311}$
2012ap	81	0.01224	2012-03-15 05:31:12.00	36.08	$17949^{+303}_{-279}$	$8968^{+959}_{-411}$
2012ap	55	0.01224	2012-03-03 00:43:12.00	24.03		
2012ap	101	0.01224	2012-02-21 06:28:48.00	13.40	$19281^{+173}_{-204}$	$15393^{+167}_{-145}$
2012ap	33	0.01224	2012-02-26 02:24:00.00	18.17	$18449^{+219}_{-290}$	$12005^{+207}_{-251}$
2012ap	77	0.01224	2012-02-14 18:57:36.00	6.99	$20275^{+506}_{-396}$	$19522^{+501}_{-702}$
2012ap	83	0.01224	2012-02-23 04:19:12.00	15.28	$18769^{+430}_{-378}$	$14450^{+101}_{-91}$
2012ap	35	0.01224	2012-02-20 19:55:12.00	12.96	$19115^{+222}_{-275}$	$14439^{+183}_{-155}$

Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2012ap	77	0.01224	2012-02-18 19:12:00.00	10.96	19655 <sup>-156</sup> <sub>+166</sub>	16598 <sup>-138</sup> <sub>+119</sub>
2012ap	41	0.01224	2012-02-27 02:38:24.00	19.17	18852 <sup>-223</sup> <sub>+205</sub>	12361 <sup>-295</sup> <sub>+393</sub>
2012ap	77	0.01224	2012-02-16 18:43:12.00	8.96	20297 <sup>-213</sup> <sub>+222</sub>	17582 <sup>-337</sup> <sub>+278</sub>
PTF12as	83	0.033	2012-01-30 00:00:00.00	34.36		16218 <sup>-518</sup> <sub>+614</sub>
PTF12as	29	0.033	2012-01-02 12:57:36.00	7.77	20859 <sup>-2767</sup> <sub>+1340</sub>	20897 <sup>-356</sup> <sub>+396</sub>
2012aa	81	0.0799	2012-02-23 12:04:19.00	54.64	17014 <sup>-603</sup> <sub>+455</sub>	11236 <sup>-457</sup> <sub>+602</sub>
2012aa	85	0.0799	2012-02-02 11:34:04.00	35.17	16426 <sup>-606</sup> <sub>+820</sub>	9135 <sup>-843</sup> <sub>+595</sub>
2012aa	121	0.0799	2012-03-15 15:20:09.00	74.21	15967 <sup>-235</sup> <sub>+211</sub>	12018 <sup>-520</sup> <sub>+339</sub>
2013bn	101	0.054	2013-04-13 00:00:00.00	8.58	18815 <sup>-1851</sup> <sub>+1809</sub>	11223 <sup>-1351</sup> <sub>+1180</sub>
2013bn	87	0.054	2013-04-19 10:26:24.00	14.68	20550 <sup>-1456</sup> <sub>+932</sub>	15786 <sup>-326</sup> <sub>+299</sub>
2013bn	43	0.054	2013-05-02 00:00:00.00	26.60	21038 <sup>-1003</sup> <sub>+1509</sub>	10009 <sup>-763</sup> <sub>+591</sub>
2013bn	121	0.054	2013-05-02 05:02:24.00	26.80	18276 <sup>-338</sup> <sub>+273</sub>	8862 <sup>-457</sup> <sub>+459</sub>
iPTF13ebw	147	0.069	2013-12-04 11:49:36.00	17.57	27568 <sup>-840</sup> <sub>+753</sub>	
iPTF13ebw	151	0.069	2013-12-04 11:45:36.00	17.57	25197 <sup>-1449</sup> <sub>+1272</sub>	10658 <sup>-665</sup> <sub>+697</sub>
iPTF13ebw	101	0.069	2013-12-03 13:55:12.00	16.72	27654 <sup>-777</sup> <sub>+834</sub>	13498 <sup>-619</sup> <sub>+698</sub>
iPTF13ebw	101	0.069	2014-01-01 00:00:00.00	43.30	21979 <sup>-1010</sup> <sub>+1161</sub>	
iPTF13ebw	201	0.069	2013-11-29 00:00:00.00	12.43	31363 <sup>-720</sup> <sub>+1119</sub>	16157 <sup>-511</sup> <sub>+443</sub>
OGLE-2013-SN-134	25	0.039	2013-12-25 07:47:02.00	16.37	10902 <sup>-481</sup> <sub>+497</sub>	6805 <sup>-643</sup> <sub>+797</sub>
LSQ14bef	51	0.05	2014-04-24 08:58:00.00	4.17	25225 <sup>-2292</sup> <sub>+1878</sub>	18107 <sup>-1392</sup> <sub>+1436</sub>
2014ad	159	0.005	2014-03-27 00:00:00.00	18.41		22296 <sup>-205</sup> <sub>+212</sub>
2014ad	151	0.005	2014-03-14 00:00:00.00	5.47	46884 <sup>-201</sup> <sub>+230</sub>	
2014ad	147	0.005	2014-05-01 00:00:00.00	53.23	20497 <sup>-181</sup> <sub>+179</sub>	17648 <sup>-74</sup> <sub>+83</sub>
2014ad	147	0.005	2014-05-12 00:00:00.00	64.18	20588 <sup>-249</sup> <sub>+219</sub>	18224 <sup>-123</sup> <sub>+141</sub>
2014ad	159	0.005	2014-03-20 00:00:00.00	11.44	35116 <sup>-164</sup> <sub>+151</sub>	26638 <sup>-867</sup> <sub>+411</sub>
2014ad	151	0.005	2014-03-15 00:00:00.00	6.47	47569 <sup>-378</sup> <sub>+372</sub>	
2014ad	25	0.005	2014-04-30 04:45:56.00	52.44	24401 <sup>-483</sup> <sub>+370</sub>	15767 <sup>-683</sup> <sub>+559</sub>
2014ad	201	0.005	2014-04-20 00:00:00.00	42.29	22855 <sup>-889</sup> <sub>+591</sub>	18545 <sup>-281</sup> <sub>+277</sub>
2014ad	157	0.005	2014-03-21 00:00:00.00	12.44	34128 <sup>-270</sup> <sub>+270</sub>	25953 <sup>-211</sup> <sub>+208</sub>
2014ad	159	0.005	2014-03-19 00:00:00.00	10.45	37296 <sup>-130</sup> <sub>+126</sub>	26067 <sup>-194</sup> <sub>+191</sub>
2014ad	159	0.005	2014-03-18 00:00:00.00	9.45	37796 <sup>-119</sup> <sub>+117</sub>	28160 <sup>-141</sup> <sub>+144</sub>
2014ad	25	0.005	2014-04-21 03:44:33.00	43.44	25105 <sup>-227</sup> <sub>+238</sub>	15639 <sup>-201</sup> <sub>+190</sub>
2014ad	147	0.005	2014-04-16 00:00:00.00	38.31	20846 <sup>-396</sup> <sub>+293</sub>	18389 <sup>-409</sup> <sub>+316</sub>
2014ad	23	0.005	2014-04-21 04:00:23.00	43.45		15386 <sup>-170</sup> <sub>+170</sub>
2014ad	81	0.005	2014-03-19 00:00:00.00	10.45	36774 <sup>-440</sup> <sub>+542</sub>	26892 <sup>-461</sup> <sub>+445</sub>
2014ad	121	0.005	2014-03-22 00:00:00.00	13.43	32763 <sup>-239</sup> <sub>+176</sub>	25543 <sup>-235</sup> <sub>+217</sub>
2014ad	159	0.005	2014-04-18 00:00:00.00	40.30	25994 <sup>-168</sup> <sub>+213</sub>	18293 <sup>-109</sup> <sub>+100</sub>
2014ad	151	0.005	2014-03-17 00:00:00.00	8.46	46582 <sup>-804</sup> <sub>+642</sub>	
2014ad	153	0.005	2014-03-16 00:00:00.00	7.46	46696 <sup>-315</sup> <sub>+348</sub>	
2014ad	109	0.005	2014-03-25 00:00:00.00	16.42	32285 <sup>-683</sup> <sub>+508</sub>	23633 <sup>-212</sup> <sub>+184</sub>
2014ad	159	0.005	2014-03-30 00:00:00.00	21.39		21181 <sup>-288</sup> <sub>+293</sub>
2014ad	139	0.005	2014-05-17 00:00:00.00	69.15	20385 <sup>-290</sup> <sub>+319</sub>	16881 <sup>-226</sup> <sub>+204</sub>
2014ad	159	0.005	2014-03-28 00:00:00.00	19.40		21924 <sup>-209</sup> <sub>+216</sub>
2014ad	147	0.005	2014-05-23 00:00:00.00	75.12	20212 <sup>-292</sup> <sub>+286</sub>	17308 <sup>-82</sup> <sub>+84</sub>
iPTF14dby	129	0.074	2014-06-29 09:36:00.00	9.14	24168 <sup>-1779</sup> <sub>+3259</sub>	13487 <sup>-923</sup> <sub>+2397</sub>
iPTF14dby	101	0.074	2014-08-30 06:14:24.00	66.74	23402 <sup>-1881</sup> <sub>+2300</sub>	11924 <sup>-827</sup> <sub>+663</sub>
iPTF14gaq	181	0.0826	2014-10-25 05:02:24.00	32.79	19612 <sup>-541</sup> <sub>+480</sub>	14042 <sup>-468</sup> <sub>+1111</sub>
iPTF14gaq	135	0.0826	2014-10-01 00:00:00.00	10.43	28176 <sup>-1403</sup> <sub>+1109</sub>	14465 <sup>-993</sup> <sub>+775</sub>
2014cp	83	0.016164	2014-07-08 18:42:58.00	15.53		7654 <sup>-291</sup> <sub>+297</sub>
2014cp	71	0.016164	2014-07-08 18:42:58.00	15.53	19281 <sup>-3462</sup> <sub>+334</sub>	

Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2014cp	71	0.016164	2014-08-05 15:32:56.00	42.95	$19236_{-290}^{+307}$	
2014cp	83	0.016164	2014-08-05 15:32:56.00	42.95		$7903_{-444}^{+524}$
iPTF15eov	201	0.0535	2016-01-05 10:33:36.00	32.48	$19343_{-930}^{+944}$	$13586_{-3108}^{+1223}$
iPTF15eov	201	0.0535	2016-03-05 06:43:12.00	89.28	$24734_{-2576}^{+2027}$	$7965_{-1717}^{+926}$
iPTF15eov	201	0.0535	2016-02-14 07:55:12.00	70.35	$25301_{-2741}^{+2728}$	$8138_{-1363}^{+817}$
iPTF15eov	205	0.0535	2016-01-08 00:00:00.00	34.91	$19278_{-236}^{+277}$	$12205_{-415}^{+385}$
iPTF15eov	31	0.0535	2016-02-18 05:31:12.00	74.05		$5634_{-990}^{+1440}$
iPTF15eov	81	0.0535	2016-01-29 09:36:00.00	55.23	$21497_{-1086}^{+1163}$	$9825_{-1751}^{+1428}$
iPTF15eov	151	0.0535	2015-12-08 12:14:24.00	5.97		
iPTF15eov	97	0.0535	2015-12-09 10:04:48.00	6.83		
iPTF15eov	97	0.0535	2016-02-06 06:14:24.00	62.69	$21064_{-396}^{+435}$	$7014_{-319}^{+280}$
iPTF15dqg	50	0.065	2015-11-18 02:10:18.00	14.89	$18721_{-946}^{+715}$	$14846_{-419}^{+526}$
iPTF15dqg	81	0.065	2015-12-06 00:00:00.00	31.71	$12663_{-139}^{+128}$	$8762_{-399}^{+452}$
iPTF15dqg	65	0.065	2015-12-12 19:26:24.00	38.10	$11449_{-357}^{+362}$	$7497_{-188}^{+195}$
iPTF15dld	25	0.047	2015-11-08 02:57:34.00	34.50	$6964_{-1174}^{+940}$	$7443_{-716}^{+578}$
iPTF15dld	25	0.047	2015-11-08 03:43:08.00	34.53	$4421_{-358}^{+517}$	
2016P	23	0.0146	2016-02-05 08:36:14.00	20.07		$3572_{-294}^{+225}$
2016P	23	0.0146	2016-02-16 08:36:05.00	30.91		
2016P	25	0.0146	2016-02-25 07:16:48.00	39.72	$22031_{-532}^{+479}$	
2016P	23	0.0146	2016-02-25 07:47:38.00	39.74		
2016P	23	0.0146	2016-02-25 08:18:12.00	39.77		
2016P	22	0.0146	2016-01-23 05:34:03.00	7.13	$18894_{-1192}^{+943}$	
2016P	23	0.0146	2016-01-28 07:39:42.00	12.14		$8343_{-134}^{+174}$
2016P	30	0.0146	2016-01-28 07:13:51.00	12.12	$17447_{-616}^{+590}$	$7817_{-235}^{+220}$
2016P	22	0.0146	2016-02-12 03:13:22.00	26.74	$21016_{-1432}^{+2882}$	
2016P	49	0.0146	2016-01-19 22:36:30.00	3.89	$19977_{-1183}^{+1181}$	
2016P	11	0.0146	2016-01-26 06:58:45.00	10.14	$18010_{-811}^{+545}$	$8294_{-324}^{+315}$
2016P	23	0.0146	2016-02-16 08:05:31.00	30.89		
2016P	25	0.0146	2016-02-05 08:10:24.00	20.05	$19349_{-227}^{+205}$	$3830_{-202}^{+288}$
2016P	51	0.0146	2016-02-25 06:46:14.00	39.70	$20086_{-1149}^{+992}$	
2016P	15	0.0146	2016-02-05 03:20:45.00	19.85	$20708_{-1150}^{+2402}$	$3249_{-879}^{+654}$
2016P	25	0.0146	2016-02-16 07:34:41.00	30.87	$21116_{-320}^{+339}$	
2016P	22	0.0146	2016-01-21 03:27:41.00	5.07	$18113_{-3519}^{+1124}$	
2016P	25	0.0146	2016-02-16 07:04:07.00	30.84	$18670_{-629}^{+407}$	
2016coi	11	0.0036	2016-05-29 03:09:04.00	5.21		$21399_{-247}^{+245}$
2016coi	21	0.0036	2016-08-09 00:20:07.00	76.84	$15965_{-97}^{+110}$	
2016coi	11	0.0036	2016-06-19 01:50:58.00	26.08	$18055_{-573}^{+566}$	$9753_{-109}^{+97}$
2016coi	67	0.0036	2016-06-03 11:07:34.00	10.53	$25955_{-355}^{+536}$	$18786_{-156}^{+152}$
2016coi	11	0.0036	2016-06-19 03:31:40.00	26.15	$18582_{-325}^{+412}$	$9745_{-66}^{+21}$
2016coi	15	0.0036	2016-06-01 02:50:59.00	8.19	$26241_{-558}^{+531}$	$19662_{-409}^{+402}$
2016coi	67	0.0036	2016-06-04 10:17:28.00	11.49	$25632_{-544}^{+1423}$	$18130_{-166}^{+158}$
2016coi	11	0.0036	2016-07-06 03:28:05.00	43.09	$16712_{-455}^{+617}$	$5978_{-104}^{+156}$
2016coi	11	0.0036	2016-05-28 05:03:59.00	4.30		$21771_{-585}^{+837}$
2016coi	49	0.0036	2016-05-31 21:09:22.00	7.95	$25788_{-583}^{+567}$	$20383_{-225}^{+211}$
2016coi	31	0.0036	2016-06-15 16:10:59.00	22.69		$13647_{-235}^{+225}$
2016coi	45	0.0036	2016-05-29 03:08:52.00	5.21	$28596_{-258}^{+244}$	$20978_{-173}^{+169}$
2016coi	11	0.0036	2016-06-15 02:14:21.00	22.11	$18533_{-299}^{+367}$	$13254_{-136}^{+194}$
2016coi	351	0.0036	2016-06-14 10:33:49.00	21.46	$18175_{-40}^{+42}$	$13376_{-52}^{+52}$
2016coi	11	0.0036	2016-06-01 02:24:52.00	8.17	$26830_{-496}^{+1032}$	$19998_{-88}^{+112}$

Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2016coi	53	0.0036	2016-07-07 01:41:09.00	44.01	16235 <sup>-574</sup> <sub>+716</sub>	6949 <sup>-241</sup> <sub>+244</sub>
2016coi	22	0.0036	2016-08-02 16:27:17.00	70.53	16044 <sup>-117</sup> <sub>+127</sub>	7169 <sup>-107</sup> <sub>+112</sub>
2016coi	11	0.0036	2016-05-28 04:42:53.00	4.28		21719 <sup>-337</sup> <sub>+408</sub>
2016coi	67	0.0036	2016-06-02 09:39:02.00	9.47	27217 <sup>-225</sup> <sub>+228</sub>	19174 <sup>-124</sup> <sub>+144</sub>
2016coi	11	0.0036	2016-07-17 03:29:48.00	54.05	15882 <sup>-253</sup> <sub>+403</sub>	5645 <sup>-178</sup> <sub>+41</sub>
2016coi	11	0.0036	2016-06-18 02:48:23.00	25.13	17635 <sup>-299</sup> <sub>+304</sub>	10703 <sup>-157</sup> <sub>+112</sub>
2016coi	87	0.0036	2016-07-15 17:27:43.00	52.64		6741 <sup>-292</sup> <sub>+293</sub>
2016coi	97	0.0036	2016-06-18 12:57:21.00	25.55	17599 <sup>-244</sup> <sub>+246</sub>	10460 <sup>-75</sup> <sub>+71</sub>
2016coi	101	0.0036	2016-06-02 10:20:23.00	9.50	26225 <sup>-383</sup> <sub>+400</sub>	19113 <sup>-152</sup> <sub>+154</sub>
2016coi	51	0.0036	2016-07-14 14:09:53.00	51.50	16309 <sup>-136</sup> <sub>+154</sub>	6688 <sup>-77</sup> <sub>+89</sub>
2016coi	11	0.0036	2016-07-12 01:53:47.00	49.00	16190 <sup>-302</sup> <sub>+296</sub>	6306 <sup>-111</sup> <sub>+121</sub>
2016coi	11	0.0036	2016-07-12 00:21:50.00	48.94	15490 <sup>-552</sup> <sub>+792</sub>	6025 <sup>-261</sup> <sub>+261</sub>
2016coi	11	0.0036	2016-07-18 00:35:41.00	54.93	15887 <sup>-276</sup> <sub>+316</sub>	6293 <sup>-111</sup> <sub>+111</sub>
2016coi	11	0.0036	2016-06-24 03:33:04.00	31.14	16043 <sup>-855</sup> <sub>+476</sub>	8181 <sup>-77</sup> <sub>+77</sub>
2016coi	81	0.0036	2016-06-02 14:14:13.00	9.66	27375 <sup>-254</sup> <sub>+245</sub>	19087 <sup>-119</sup> <sub>+122</sub>
2016coi	22	0.0036	2016-08-01 03:23:51.00	68.99	16171 <sup>-57</sup> <sub>+61</sub>	6966 <sup>-78</sup> <sub>+75</sub>
2016coi	67	0.0036	2016-07-10 10:12:04.00	47.35	16148 <sup>-208</sup> <sub>+216</sub>	6561 <sup>-90</sup> <sub>+96</sub>
2016coi	31	0.0036	2016-07-10 06:52:28.00	47.22	16228 <sup>-81</sup> <sub>+73</sub>	6816 <sup>-54</sup> <sub>+40</sub>
2016coi	15	0.0036	2016-07-19 03:22:40.00	56.04	16179 <sup>-828</sup> <sub>+685</sub>	5252 <sup>-306</sup> <sub>+292</sub>
2016coi	49	0.0036	2016-06-02 20:53:21.00	9.93	24489 <sup>-593</sup> <sub>+710</sub>	18972 <sup>-191</sup> <sub>+194</sub>
2016coi	23	0.0036	2016-06-24 17:52:46.00	31.73	16826 <sup>-452</sup> <sub>+339</sub>	8330 <sup>-32</sup> <sub>+76</sub>
2016coi	11	0.0036	2016-06-03 04:11:52.00	10.24	23009 <sup>-1357</sup> <sub>+434</sub>	19048 <sup>-139</sup> <sub>+215</sub>
2016coi	7	0.0036	2016-05-29 03:45:00.00	5.24	27521 <sup>-564</sup> <sub>+609</sub>	20688 <sup>-153</sup> <sub>+174</sub>
2016coi	51	0.0036	2016-07-05 14:22:37.00	42.55	16777 <sup>-225</sup> <sub>+236</sub>	6935 <sup>-62</sup> <sub>+55</sub>
2016coi	11	0.0036	2016-07-02 04:05:45.00	39.13	16535 <sup>-192</sup> <sub>+245</sub>	6600 <sup>-88</sup> <sub>+104</sub>
2016coi	11	0.0036	2016-06-22 01:09:31.00	29.04	17540 <sup>-388</sup> <sub>+379</sub>	8642 <sup>-146</sup> <sub>+225</sub>
2016coi	11	0.0036	2016-06-10 03:42:17.00	17.19	19228 <sup>-519</sup> <sub>+396</sub>	15598 <sup>-91</sup> <sub>+116</sub>
2016coi	11	0.0036	2016-06-22 01:16:35.00	29.05	19240 <sup>-925</sup> <sub>+1152</sub>	8802 <sup>-87</sup> <sub>+78</sub>
2016coi	61	0.0036	2016-07-01 14:21:12.00	38.56	16458 <sup>-308</sup> <sub>+266</sub>	7176 <sup>-47</sup> <sub>+65</sub>
2016coi	47	0.0036	2016-06-13 03:56:21.00	20.19	18520 <sup>-62</sup> <sub>+63</sub>	14337 <sup>-90</sup> <sub>+104</sub>
2016coi	22	0.0036	2016-08-02 15:40:10.00	70.50	16525 <sup>-85</sup> <sub>+88</sub>	7365 <sup>-75</sup> <sub>+78</sub>
2016coi	31	0.0036	2016-08-03 12:57:34.00	71.38	15569 <sup>-174</sup> <sub>+260</sub>	7129 <sup>-101</sup> <sub>+84</sub>
2016coi	67	0.0036	2016-06-08 10:27:52.00	15.48	20476 <sup>-644</sup> <sub>+680</sub>	16157 <sup>-241</sup> <sub>+216</sub>
2016coi	51	0.0036	2016-06-27 12:24:52.00	34.49	16308 <sup>-314</sup> <sub>+319</sub>	7787 <sup>-108</sup> <sub>+128</sub>
2016coi	97	0.0036	2016-07-22 13:57:39.00	59.47		6594 <sup>-172</sup> <sub>+167</sub>
2016coi	101	0.0036	2016-05-31 10:00:43.00	7.49	27342 <sup>-382</sup> <sub>+802</sub>	19882 <sup>-157</sup> <sub>+133</sub>
2016coi	11	0.0036	2016-06-09 03:35:32.00	16.19	19789 <sup>-461</sup> <sub>+569</sub>	16100 <sup>-111</sup> <sub>+154</sub>
2016coi	67	0.0036	2016-06-09 11:05:25.00	16.50	19734 <sup>-282</sup> <sub>+236</sub>	16055 <sup>-132</sup> <sub>+124</sub>
2016coi	11	0.0036	2016-07-24 03:00:26.00	61.01	15085 <sup>-471</sup> <sub>+492</sub>	5155 <sup>-328</sup> <sub>+211</sub>
2016coi	11	0.0036	2016-06-12 03:25:06.00	19.17	18883 <sup>-222</sup> <sub>+562</sub>	15134 <sup>-91</sup> <sub>+142</sub>
2016coi	47	0.0036	2016-06-07 04:54:31.00	14.25	20966 <sup>-103</sup> <sub>+107</sub>	16911 <sup>-61</sup> <sub>+61</sub>
2016coi	51	0.0036	2016-06-07 13:38:20.00	14.62	20293 <sup>-657</sup> <sub>+449</sub>	16516 <sup>-100</sup> <sub>+108</sub>
2016coi	33	0.0036	2016-06-23 01:04:00.00	30.04	17276 <sup>-150</sup> <sub>+185</sub>	8600 <sup>-55</sup> <sub>+49</sub>
2016coi	11	0.0036	2016-06-26 00:39:19.00	33.01	17813 <sup>-509</sup> <sub>+435</sub>	7670 <sup>-52</sup> <sub>+52</sub>
2016coi	67	0.0036	2016-07-05 10:43:34.00	42.39	16304 <sup>-243</sup> <sub>+223</sub>	6718 <sup>-81</sup> <sub>+89</sub>
2016coi	11	0.0036	2016-06-14 02:18:25.00	21.12	17985 <sup>-167</sup> <sub>+102</sub>	13629 <sup>-159</sup> <sub>+292</sub>
2016coi	6	0.0036	2016-06-14 01:52:45.00	21.10	18513 <sup>-440</sup> <sub>+349</sub>	14627 <sup>-196</sup> <sub>+182</sub>
2016coi	11	0.0036	2016-07-05 04:50:06.00	42.15	16749 <sup>-415</sup> <sub>+385</sub>	6106 <sup>-157</sup> <sub>+156</sub>
2016coi	67	0.0036	2016-06-05 10:59:33.00	12.51	23905 <sup>-1673</sup> <sub>+993</sub>	17941 <sup>-143</sup> <sub>+150</sub>



Table 1. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2016coi	11	0.0036	2016-06-10 04:48:36.00	17.24	20309 <sup>-358</sup> <sub>+421</sub>	15984 <sup>-78</sup> <sub>+86</sub>
2016coi	11	0.0036	2016-06-23 02:57:05.00	30.11	17655 <sup>-397</sup> <sub>+515</sub>	8414 <sup>-52</sup> <sub>+77</sub>
2016coi	45	0.0036	2016-05-28 03:37:05.00	4.24		21485 <sup>-127</sup> <sub>+135</sub>
2016coi	33	0.0036	2016-06-18 00:20:38.00	25.02	17396 <sup>-137</sup> <sub>+112</sub>	11065 <sup>-48</sup> <sub>+51</sub>
2016coi	81	0.0036	2016-06-13 16:16:05.00	20.70	18498 <sup>-533</sup> <sub>+494</sub>	12321 <sup>-398</sup> <sub>+364</sub>
2016coi	67	0.0036	2016-06-06 10:43:07.00	13.50	22027 <sup>-612</sup> <sub>+528</sub>	17420 <sup>-123</sup> <sub>+123</sub>
2016coi	11	0.0036	2016-07-26 23:33:16.00	63.85	15690 <sup>-445</sup> <sub>+435</sub>	6335 <sup>-186</sup> <sub>+241</sub>
2016coi	11	0.0036	2016-06-12 04:21:05.00	19.21	19528 <sup>-215</sup> <sub>+245</sub>	14592 <sup>-106</sup> <sub>+82</sub>
2016coi	25	0.0036	2016-07-21 02:35:04.00	58.00	16303 <sup>-91</sup> <sub>+92</sub>	6421 <sup>-73</sup> <sub>+84</sub>
2016coi	21	0.0036	2016-07-04 00:47:14.00	40.99	16487 <sup>-91</sup> <sub>+81</sub>	7172 <sup>-63</sup> <sub>+38</sub>
2016ilj	25	0.039711	2016-11-28 23:16:48.00	19.45	28050 <sup>-502</sup> <sub>+527</sub>	17884 <sup>-762</sup> <sub>+785</sub>
2016ilj	5	0.039711	2016-11-25 00:00:00.00	15.63	31437 <sup>-509</sup> <sub>+609</sub>	18174 <sup>-705</sup> <sub>+924</sub>
2016ilj	5	0.039711	2016-11-30 00:00:00.00	20.44		15704 <sup>-313</sup> <sub>+365</sub>
2016gox	131	0.042	2016-10-06 00:00:00.00	24.87		12394 <sup>-577</sup> <sub>+631</sub>
2016gox	133	0.042	2016-10-01 00:00:00.00	20.07	26950 <sup>-1665</sup> <sub>+1944</sub>	14591 <sup>-1302</sup> <sub>+909</sub>
2016gox	90	0.042	2016-10-15 02:38:24.00	33.61	29411 <sup>-6936</sup> <sub>+3778</sub>	10289 <sup>-1122</sup> <sub>+2417</sub>
2017dgk	25	0.065	2017-04-29 00:36:04.00	6.65	18318 <sup>-195</sup> <sub>+256</sub>	16505 <sup>-176</sup> <sub>+144</sub>
2017dgk	25	0.065	2017-04-24 02:29:45.00	2.03	21474 <sup>-435</sup> <sub>+717</sub>	17863 <sup>-279</sup> <sub>+257</sub>
2017cw	127	0.093	2017-02-27 10:33:36.00	54.47	18512 <sup>-687</sup> <sub>+700</sub>	13051 <sup>-1058</sup> <sub>+783</sub>
2017cw	133	0.093	2017-01-07 00:00:00.00	7.41	27395 <sup>-1159</sup> <sub>+1057</sub>	17480 <sup>-487</sup> <sub>+551</sub>
2017cw	101	0.093	2017-02-01 08:38:24.00	30.61	20218 <sup>-810</sup> <sub>+1306</sub>	12694 <sup>-1739</sup> <sub>+1221</sub>
2017dcc	25	0.0245	2017-04-22 06:41:45.00	9.55	15795 <sup>-731</sup> <sub>+604</sub>	10081 <sup>-892</sup> <sub>+853</sub>
2017dcc	41	0.0245	2017-04-29 02:35:08.00	16.22		7402 <sup>-241</sup> <sub>+209</sub>
2017dcc	20	0.0245	2017-04-23 07:02:15.00	10.54	15091 <sup>-271</sup> <sub>+270</sub>	10469 <sup>-258</sup> <sub>+354</sub>
2017dcc	41	0.0245	2017-04-23 07:28:02.00	10.56		10379 <sup>-188</sup> <sub>+205</sub>
2017dcc	20	0.0245	2017-05-01 05:11:29.00	18.28	13881 <sup>-845</sup> <sub>+546</sub>	6549 <sup>-1790</sup> <sub>+1081</sub>
2017dcc	25	0.0245	2017-04-29 02:09:16.00	16.20	13966 <sup>-481</sup> <sub>+482</sub>	8132 <sup>-358</sup> <sub>+656</sub>
2017dcc	23	0.0245	2017-05-01 05:37:20.00	18.30		8388 <sup>-399</sup> <sub>+598</sub>
2017dio	47	0.037	2017-05-02 00:00:00.00	17.12	5267 <sup>-425</sup> <sub>+439</sub>	
2017dio	41	0.037	2017-05-01 00:00:00.00	16.15	4915 <sup>-1624</sup> <sub>+859</sub>	5427 <sup>-1043</sup> <sub>+1121</sub>
2017dio	25	0.037	2017-04-30 00:00:00.00	15.19	5219 <sup>-397</sup> <sub>+382</sub>	
2017dio	22	0.037	2017-05-13 00:00:00.00	27.72	1007 <sup>-1370</sup> <sub>+1181</sub>	
2017ifh	21	0.039	2017-12-01 02:22:24.00	30.88	10682 <sup>-2452</sup> <sub>+3743</sub>	6235 <sup>-1084</sup> <sub>+914</sub>
2017ifh	22	0.039	2017-11-19 00:08:37.00	19.24	21455 <sup>-1643</sup> <sub>+1229</sub>	
2017ifh	22	0.039	2017-12-15 00:10:38.00	44.27	6834 <sup>-1703</sup> <sub>+1529</sub>	
2017ifh	177	0.039	2017-11-17 15:32:00.00	17.94	23085 <sup>-701</sup> <sub>+722</sub>	14194 <sup>-1002</sup> <sub>+1685</sub>
2017fwm	51	0.016	2017-08-16 23:44:52.00	20.88		2804 <sup>-1552</sup> <sub>+1421</sub>
2017fwm	25	0.016	2017-08-22 02:34:44.00	25.92		3878 <sup>-779</sup> <sub>+1113</sub>
2017fwm	25	0.016	2017-08-28 02:35:53.00	31.82		2072 <sup>-945</sup> <sub>+750</sub>
2017fwm	50	0.016	2017-09-14 01:33:07.00	48.51		2923 <sup>-1479</sup> <sub>+3215</sub>
2017ens	50	0.1086	2018-01-14 07:29:01.00	202.52	20219 <sup>-2565</sup> <sub>+1638</sub>	
2018giu	23	0.026	2018-10-18 01:15:04.00	33.29		4418 <sup>-300</sup> <sub>+343</sub>
2018giu	41	0.026	2018-09-17 03:41:09.00	3.18	17777 <sup>-1042</sup> <sub>+1642</sub>	8790 <sup>-502</sup> <sub>+638</sub>
2018giu	23	0.026	2018-11-01 00:54:34.00	46.93		
2018giu	23	0.026	2018-10-03 02:28:17.00	18.72		10225 <sup>-196</sup> <sub>+223</sub>
2018giu	25	0.026	2018-10-03 02:02:28.00	18.71	11899 <sup>-165</sup> <sub>+144</sub>	9830 <sup>-207</sup> <sub>+199</sub>
2018giu	25	0.026	2018-10-18 00:44:14.00	33.27	10310 <sup>-375</sup> <sub>+385</sub>	4282 <sup>-275</sup> <sub>+306</sub>
2018giu	25	0.05	2018-09-18 07:55:56.00	4.58	21414 <sup>-566</sup> <sub>+491</sub>	22883 <sup>-403</sup> <sub>+418</sub>
2018kqr	109	0.045	2018-12-14 08:15:46.00	7.50	17761 <sup>-458</sup> <sub>+485</sub>	15162 <sup>-656</sup> <sub>+490</sub>

**Table 1.** continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
2018kqr	109	0.045	2018-12-27 00:00:00.00	19.61	$17521^{+884}_{-1531}$	$8306^{+639}_{-753}$
2018gsk	23	0.0116	2018-10-18 06:41:37.00	32.27		$14292^{+107}_{-89}$
2018gsk	23	0.0116	2018-10-10 07:17:45.00	24.39		
2018gsk	25	0.0116	2018-10-10 06:51:54.00	24.37	$5419^{+238}_{-240}$	$9529^{+706}_{-687}$
2018gsk	23	0.0116	2018-11-01 07:48:52.00	46.15		$13637^{+91}_{-223}$
2018gsk	23	0.0116	2018-10-18 07:24:53.00	32.30		$14102^{+72}_{-40}$
2018gsk	25	0.0116	2018-10-31 07:45:04.00	45.16	$5054^{+297}_{-271}$	$13212^{+187}_{-210}$
2018gsk	11	0.0116	2018-09-23 05:37:55.00	7.51	$7844^{+809}_{-1186}$	$9224^{+1061}_{-1206}$
2018gsk	35	0.0116	2018-11-16 06:13:26.00	60.92	$4473^{+919}_{-714}$	$11835^{+486}_{-424}$
2018gsk	25	0.0116	2018-10-18 05:32:07.00	32.22	$5318^{+159}_{-186}$	$13844^{+132}_{-157}$
2018gsk	15	0.0116	2018-10-18 06:05:37.00	32.24	$5283^{+182}_{-223}$	$14193^{+143}_{-243}$
2018gsk	25	0.0116	2018-10-03 07:29:43.00	17.47	$5721^{+199}_{-220}$	$3516^{+200}_{-197}$
2018cbz	21	0.0223	2018-06-09 21:17:56.00	11.27	$11766^{+2003}_{-1382}$	$14406^{+921}_{-676}$
2018cbz	15	0.0223	2018-06-19 22:09:19.00	21.08		$8085^{+899}_{-1005}$
2018cbz	22	0.0223	2018-06-15 21:20:57.00	17.14	$13613^{+1637}_{-1347}$	$11893^{+884}_{-657}$
2018cbz	15	0.0223	2018-06-07 22:15:46.00	9.35	$16803^{+771}_{-600}$	$14973^{+386}_{-518}$
2018cbz	15	0.0223	2018-06-11 21:23:50.00	13.23	$16124^{+422}_{-426}$	$14153^{+199}_{-216}$
2018gep	71	0.033	2018-09-19 05:42:17.00	9.81	$19889^{+191}_{-166}$	$21826^{+279}_{-427}$
2020abdw	51	0.0327790007	2020-12-08 01:46:18.00	16.29	$9272^{+1047}_{-879}$	$9793^{+2591}_{-845}$
2020abdw	63	0.0327790007	2020-12-14 03:43:12.00	22.18	$7005^{+250}_{-290}$	$7066^{+588}_{-732}$
2020abdw	15	0.0327790007	2020-12-16 03:25:05.00	24.10	$12092^{+2431}_{-2141}$	$9003^{+2505}_{-3628}$
2022crr	67	0.0188	2022-02-24 08:19:00.00	15.79	$22793^{+447}_{-364}$	$20614^{+312}_{-304}$

**Notes.** Each line in the table represents one observation. The name of the event, SG filter width, redshift ( $z$ ), observation date of the spectrum and rest-frame time relative to the explosion date ( $\Delta T_{rest}$ ) are all given. The velocities (and uncertainties) of the Fe II ( $v_{Fe II}$ ) and Si II ( $v_{Si II}$ ) features are reported for each observation. In some cases, no velocity is reported for a feature, for example because the wavelength range of the feature in question was not covered by the spectrum.

**Table 2.** Fe II and Si II velocities of the GRB-SNe analysed here.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
GRB980425-SN1998bw	51	0.008499	1998-09-12 00:00:00.00	137.92	$23934^{+146}_{-130}$	$14966^{+146}_{-170}$
GRB980425-SN1998bw	47	0.008499	1998-05-03 09:30:00.00	7.42	$39762^{+324}_{-287}$	$24954^{+229}_{-250}$
GRB980425-SN1998bw	40	0.008499	1998-06-08 00:00:00.00	42.73	$28326^{+320}_{-377}$	$6580^{+989}_{-340}$
GRB980425-SN1998bw	21	0.008499	1998-05-29 00:00:00.00	32.81	$28411^{+70}_{-94}$	$8139^{+1037}_{-478}$
GRB980425-SN1998bw	47	0.008499	1998-05-07 00:00:00.00	11.00	$35464^{+1766}_{-1749}$	$24363^{+253}_{-229}$
GRB980425-SN1998bw	71	0.008499	1998-06-24 05:45:00.00	58.83	$25970^{+157}_{-163}$	$7785^{+244}_{-225}$
GRB980425-SN1998bw	57	0.008499	1998-05-08 00:00:00.00	11.99	$28501^{+1187}_{-1103}$	$24838^{+163}_{-197}$
GRB980425-SN1998bw	31	0.008499	1998-05-04 00:00:00.00	8.02	$38268^{+186}_{-166}$	$28085^{+910}_{-1005}$
GRB980425-SN1998bw	59	0.008499	1998-05-09 00:00:00.00	12.98	$31467^{+457}_{-564}$	$24084^{+254}_{-283}$
GRB980425-SN1998bw	25	0.008499	1998-07-22 00:00:00.00	86.36	$26408^{+497}_{-753}$	$13441^{+271}_{-261}$
GRB980425-SN1998bw	29	0.008499	1998-05-01 00:00:00.00	5.05		
GRB980425-SN1998bw	57	0.008499	1998-05-11 00:00:00.00	14.96	$30203^{+328}_{-379}$	$22748^{+408}_{-483}$
GRB980425-SN1998bw	31	0.008499	1998-05-19 00:00:00.00	22.90	$28115^{+323}_{-354}$	$12054^{+328}_{-324}$
GRB980425-SN1998bw	31	0.008499	1998-05-21 00:00:00.00	24.88	$27733^{+252}_{-227}$	$12303^{+194}_{-254}$
GRB980425-SN1998bw	31	0.008499	1998-05-22 00:00:00.00	25.87	$27850^{+227}_{-250}$	$12264^{+244}_{-393}$
GRB980425-SN1998bw	31	0.008499	1998-07-01 04:15:00.00	65.71	$25733^{+252}_{-291}$	$8345^{+957}_{-1175}$
GRB980425-SN1998bw	41	0.008499	1998-05-23 00:00:00.00	26.86	$28755^{+113}_{-105}$	$9488^{+347}_{-362}$
GRB980425-SN1998bw	47	0.008499	1998-06-01 00:00:00.00	35.79	$27682^{+164}_{-172}$	$8772^{+973}_{-720}$
GRB980425-SN1998bw	47	0.008499	1998-05-16 00:00:00.00	19.92	$28336^{+146}_{-148}$	$13654^{+95}_{-111}$

Table 2. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{FeII}$ [km/s]	$v_{SiII}$ [km/s]
GRB980425-SN1998bw	49	0.008499	1998-07-13 00:00:00.00	77.43	$25258^{+296}_{-316}$	$12849^{+423}_{-510}$
GRB980425-SN1998bw	47	0.008499	1998-05-14 00:00:00.00	17.94	$28853^{+171}_{-149}$	$14598^{+191}_{-207}$
GRB980425-SN1998bw	57	0.008499	1998-05-13 09:30:00.00	17.34	$28653^{+279}_{-293}$	$15170^{+129}_{-118}$
GRB030329-SN2003dh	49	0.1685	2003-05-02 01:12:00.00	28.73	$29191^{+244}_{-388}$	$7446^{+178}_{-175}$
GRB030329-SN2003dh	45	0.1685	2003-04-09 03:50:24.00	9.14	$31483^{+64}_{-57}$	$33296^{+165}_{-190}$
GRB030329-SN2003dh	81	0.1685	2003-05-08 00:00:00.00	33.82	$28073^{+220}_{-200}$	$12475^{+358}_{-390}$
GRB030329-SN2003dh	55	0.1685	2003-04-08 03:36:00.00	8.27	$34666^{+177}_{-170}$	$30149^{+1231}_{-884}$
GRB030329-SN2003dh	49	0.1685	2003-05-04 00:14:24.00	30.40	$29097^{+203}_{-187}$	$11917^{+385}_{-298}$
GRB030329-SN2003dh	55	0.1685	2003-04-10 03:21:36.00	9.98	$36343^{+443}_{-647}$	
GRB030329-SN2003dh	41	0.1685	2003-04-24 04:33:36.00	22.00	$24833^{+105}_{-97}$	$16071^{+66}_{-61}$
GRB030329-SN2003dh	37	0.1685	2003-04-06 03:36:00.00	6.56	$37440^{+626}_{-629}$	$44442^{+115}_{-110}$
GRB030329-SN2003dh	55	0.1685	2003-04-07 06:14:24.00	7.51	$40924^{+266}_{-327}$	
GRB030329-SN2003dh	81	0.1685	2003-06-22 06:43:12.00	72.57	$25182^{+245}_{-297}$	$13895^{+151}_{-152}$
GRB030329-SN2003dh	81	0.1685	2003-05-24 09:07:12.00	47.84	$24282^{+201}_{-179}$	$12316^{+425}_{-345}$
GRB060218-SN2006aj	101	0.033023	2006-03-03 03:21:36.00	12.58	$20284^{+649}_{-1217}$	$18874^{+428}_{-513}$
GRB060218-SN2006aj	81	0.033023	2006-03-02 03:07:12.00	11.60	$22874^{+463}_{-460}$	$20742^{+489}_{-1039}$
GRB060218-SN2006aj	121	0.033023	2006-03-02 03:36:00.00	11.62	$19845^{+1351}_{-1388}$	$19383^{+852}_{-806}$
GRB060218-SN2006aj	47	0.033023	2006-03-03 00:14:24.00	12.45	$21131^{+1421}_{-797}$	$19081^{+160}_{-166}$
GRB060218-SN2006aj	201	0.033023	2006-02-26 00:00:00.00	7.60	$25539^{+426}_{-455}$	$20185^{+709}_{-996}$
GRB060218-SN2006aj	67	0.033023	2006-03-03 03:36:00.00	12.59	$22328^{+644}_{-495}$	$17857^{+503}_{-438}$
GRB060218-SN2006aj	121	0.033023	2006-02-23 03:07:12.00	4.82	$29023^{+2816}_{-2205}$	
GRB060218-SN2006aj	41	0.033023	2006-03-04 00:12:58.00	13.42		$18271^{+179}_{-180}$
GRB060218-SN2006aj	67	0.033023	2006-02-23 02:24:00.00	4.79	$26823^{+546}_{-570}$	
GRB060218-SN2006aj	47	0.033023	2006-03-05 00:38:53.00	14.40		$17753^{+237}_{-230}$
GRB060218-SN2006aj	47	0.033023	2006-03-06 00:20:10.00	15.36		$17327^{+213}_{-224}$
GRB060218-SN2006aj	101	0.033023	2006-03-08 00:10:05.00	17.29		$15697^{+193}_{-155}$
GRB060218-SN2006aj	133	0.033023	2006-02-22 00:00:00.00	3.73	$23930^{+669}_{-1513}$	
GRB060218-SN2006aj	71	0.033023	2006-03-09 00:18:43.00	18.26		$14936^{+321}_{-286}$
GRB060218-SN2006aj	47	0.033023	2006-03-10 00:18:43.00	19.23		$13468^{+242}_{-196}$
GRB060218-SN2006aj	81	0.033023	2006-02-21 00:00:00.00	2.76	$32313^{+585}_{-869}$	
GRB060218-SN2006aj	125	0.033023	2006-02-24 03:50:24.00	5.82	$23521^{+651}_{-643}$	
GRB060218-SN2006aj	47	0.033023	2006-03-02 00:10:05.00	11.48	$23362^{+105}_{-125}$	$19728^{+158}_{-167}$
GRB060218-SN2006aj	35	0.033023	2006-03-01 00:12:58.00	10.51	$23956^{+151}_{-189}$	$20368^{+367}_{-355}$
GRB060218-SN2006aj	101	0.033023	2006-02-27 02:52:48.00	8.68	$24549^{+1314}_{-2003}$	$20016^{+625}_{-515}$
GRB060218-SN2006aj	67	0.033023	2006-02-28 03:36:00.00	9.68	$21833^{+767}_{-1084}$	$18998^{+973}_{-455}$
GRB060218-SN2006aj	201	0.033023	2006-02-25 00:00:00.00	6.63	$24980^{+342}_{-406}$	
GRB060218-SN2006aj	47	0.033023	2006-02-28 00:36:00.00	9.56	$23827^{+424}_{-424}$	$20686^{+260}_{-428}$
GRB060218-SN2006aj	47	0.033023	2006-02-27 00:33:07.00	8.59	$24476^{+229}_{-263}$	$21035^{+227}_{-345}$
GRB101219B-SN2010ma	61	0.55185	2011-01-05 02:09:36.00	10.57	$33596^{+1784}_{-4556}$	$11493^{+2153}_{-4269}$
GRB101219B-SN2010ma	31	0.55185	2010-12-20 00:00:00	0.20	$28985^{+946}_{-1028}$	
GRB101219B-SN2010ma	51	0.55185	2011-01-25 13:12:00.00	23.75		$13980^{+370}_{-400}$
GRB100316D-SN2010bh	55	0.0593	2010-03-26 00:00:00.00	8.94	$41038^{+452}_{-482}$	
GRB100316D-SN2010bh	31	0.0593	2010-04-01 00:00:00.00	14.60	$35722^{+977}_{-724}$	$32478^{+448}_{-440}$
GRB100316D-SN2010bh	31	0.0593	2010-03-30 00:00:00.00	12.71	$36034^{+788}_{-518}$	$33385^{+638}_{-756}$
GRB100316D-SN2010bh	51	0.0593	2010-04-05 00:00:00.00	18.38	$35268^{+1510}_{-1044}$	$30143^{+838}_{-1351}$
GRB100316D-SN2010bh	25	0.0593	2010-03-28 00:00:00.00	10.83	$38281^{+1352}_{-811}$	$33621^{+1862}_{-2163}$
GRB100316D-SN2010bh	55	0.0593	2010-03-25 00:00:00.00	7.99	$41894^{+675}_{-719}$	
GRB100316D-SN2010bh	31	0.0593	2010-03-24 00:00:00.00	7.05	$42458^{+761}_{-814}$	$34321^{+2074}_{-1371}$
GRB100316D-SN2010bh	51	0.0593	2010-04-03 00:00:00.00	16.49	$38097^{+1009}_{-1541}$	$31805^{+648}_{-1361}$

Table 2. continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{FeII}$ [km/s]	$v_{SiII}$ [km/s]
GRB100316D-SN2010bh	101	0.0593	2010-04-08 00:00:00.00	21.21	$31338_{-1393}^{+1192}$	$26809_{-840}^{+689}$
GRB100316D-SN2010bh	31	0.0593	2010-04-18 00:00:00.00	30.65	$17836_{-1392}^{+1466}$	$27027_{-3511}^{+4167}$
GRB120422A-SN2012bz	501	0.283	2012-05-10 23:54:14.00	14.57	$25941_{-3334}^{+2681}$	
GRB120422A-SN2012bz	901	0.283	2012-05-01 01:27:50.00	6.83	$33682_{-5572}^{+2759}$	
GRB120422A-SN2012bz	451	0.283	2012-05-16 23:58:33.00	19.25	$21991_{-1346}^{+1806}$	$19902_{-802}^{+1062}$
GRB120422A-SN2012bz	151	0.283	2012-05-03 00:00:00.00	8.34	$24782_{-3150}^{+3914}$	$19696_{-2994}^{+1763}$
GRB120422A-SN2012bz	901	0.283	2012-05-29 00:36:00.00	28.62	$6151_{-3928}^{+1335}$	$9713_{-1882}^{+2773}$
GRB120422A-SN2012bz	125	0.283	2012-04-27 06:10:04.00	3.86	$36123_{-2833}^{+3292}$	
GRB130702A-SN2013dx	43	0.15	2013-07-11 00:00:00.00	7.82	$23638_{-1468}^{+993}$	
GRB130702A-SN2013dx	401	0.15	2013-07-05 00:00:00.00	2.61	$28546_{-654}^{+611}$	
GRB130702A-SN2013dx	351	0.15	2013-07-04 03:50:24.00	1.88	$34574_{-1211}^{+2161}$	$31291_{-1332}^{+2638}$
GRB130702A-SN2013dx	103	0.15	2013-07-03 00:00:00.00	0.87	$42936_{-980}^{+1248}$	$35214_{-968}^{+1182}$
GRB130702A-SN2013dx	67	0.15	2013-07-30 00:00:00.00	24.34	$17142_{-742}^{+714}$	$6593_{-1973}^{+1815}$
GRB130702A-SN2013dx	101	0.15	2013-07-22 00:00:00.00	17.39	$21075_{-3234}^{+2006}$	$13722_{-782}^{+822}$
GRB130702A-SN2013dx	121	0.15	2013-07-11 00:00:00.00	7.82	$27483_{-454}^{+421}$	$20043_{-1375}^{+1091}$
GRB130702A-SN2013dx	51	0.15	2013-07-09 00:00:00.00	6.08	$29207_{-1013}^{+1027}$	
GRB130702A-SN2013dx	251	0.15	2013-08-02 00:00:00.00	26.95	$18444_{-785}^{+862}$	$8876_{-586}^{+541}$
GRB130702A-SN2013dx	81	0.15	2013-07-20 00:00:00.00	15.65	$17561_{-1312}^{+1864}$	$16023_{-1017}^{+1321}$
GRB130702A-SN2013dx	51	0.15	2013-07-20 00:00:00.00	15.65	$15612_{-923}^{+673}$	$15553_{-575}^{+767}$
GRB130702A-SN2013dx	61	0.15	2013-08-03 00:00:00.00	27.82	$14780_{-1448}^{+934}$	$8197_{-5201}^{+1829}$
GRB130702A-SN2013dx	81	0.15	2013-07-17 00:00:00.00	13.04	$17784_{-1149}^{+933}$	$15523_{-1653}^{+1443}$
GRB130702A-SN2013dx	43	0.15	2013-07-13 00:00:00.00	9.56	$21490_{-1062}^{+732}$	$17123_{-628}^{+537}$
GRB130702A-SN2013dx	91	0.15	2013-08-06 00:00:00.00	30.43	$16909_{-1071}^{+899}$	$5005_{-4094}^{+1602}$
GRB130702A-SN2013dx	43	0.15	2013-07-16 00:00:00.00	12.17	$16314_{-1053}^{+683}$	$16033_{-640}^{+503}$
GRB130702A-SN2013dx	71	0.15	2013-07-16 00:00:00.00	12.17	$20264_{-1792}^{+1968}$	$15161_{-4074}^{+2522}$
GRB130702A-SN2013dx	141	0.15	2013-07-08 05:31:12.00	5.41	$27162_{-2808}^{+2415}$	$21551_{-1425}^{+1707}$
GRB130702A-SN2013dx	37	0.15	2013-07-14 00:00:00.00	10.43	$18254_{-1077}^{+1131}$	$15772_{-547}^{+599}$
GRB130702A-SN2013dx	61	0.15	2013-07-27 00:00:00.00	21.74	$17969_{-2565}^{+871}$	$11709_{-564}^{+577}$
GRB130702A-SN2013dx	71	0.15	2013-07-09 00:00:00.00	6.08	$26295_{-2437}^{+2921}$	
GRB130702A-SN2013dx	201	0.15	2013-08-02 00:00:00.00	26.95	$20987_{-812}^{+1639}$	$4688_{-1048}^{+1064}$
GRB130702A-SN2013dx	71	0.15	2013-08-10 00:00:00.00	33.91	$23169_{-4228}^{+5177}$	$3017_{-1232}^{+1545}$
GRB161219B-SN2016jca	51	0.1475	2017-01-04 04:55:30.00	13.44	$27080_{-674}^{+711}$	$25481_{-896}^{+1110}$
GRB161219B-SN2016jca	101	0.1475	2016-12-25 03:00:00.00	4.65	$46570_{-866}^{+690}$	
GRB161219B-SN2016jca	25	0.1475	2017-01-04 05:47:24.00	13.47	$25968_{-3031}^{+1422}$	
GRB171205A-SN2017iuk	21	0.0368	2017-12-29 05:22:02.00	23.07	$12796_{-1097}^{+990}$	$5424_{-1196}^{+697}$
GRB171205A-SN2017iuk	51	0.0368	2018-02-21 08:24:25.00	75.27	$7647_{-1877}^{+1418}$	
GRB171205A-SN2017iuk	51	0.0368	2018-02-21 07:32:04.00	75.24	$4877_{-1407}^{+1289}$	
GRB171205A-SN2017iuk	61	0.0368	2018-02-21 06:40:03.00	75.20	$7862_{-2537}^{+1654}$	
GRB171205A-SN2017iuk	35	0.0368	2017-12-12 06:25:19.00	6.71	$29945_{-2119}^{+3019}$	
GRB171205A-SN2017iuk	51	0.0368	2017-12-12 07:00:57.00	6.74		
GRB171205A-SN2017iuk	51	0.0368	2017-12-13 06:27:34.00	7.68	$26702_{-2591}^{+1414}$	
GRB171205A-SN2017iuk	23	0.0368	2017-12-13 07:07:08.00	7.71		$11799_{-550}^{+843}$
GRB171205A-SN2017iuk	51	0.0368	2018-01-06 05:45:17.00	30.80	$10328_{-1470}^{+1017}$	$2257_{-483}^{+453}$
GRB171205A-SN2017iuk	25	0.0368	2018-01-06 04:55:26.00	30.77	$12508_{-435}^{+385}$	$1802_{-1788}^{+1635}$
GRB171205A-SN2017iuk	23	0.0368	2017-12-27 06:09:12.00	21.17		$8912_{-214}^{+200}$
GRB171205A-SN2017iuk	23	0.0368	2017-12-15 06:55:43.00	9.63		$12503_{-442}^{+396}$
GRB171205A-SN2017iuk	31	0.0368	2018-01-05 06:11:50.00	29.85		$2097_{-1452}^{+1314}$
GRB171205A-SN2017iuk	25	0.0368	2017-12-15 06:19:35.00	9.60	$22624_{-914}^{+580}$	$12370_{-636}^{+1547}$
GRB171205A-SN2017iuk	25	0.0368	2017-12-17 06:25:26.00	11.54	$21436_{-756}^{+1046}$	$12376_{-546}^{+566}$

**Table 2.** continued.

Event name	SG filter width	$z$	Obs. date [UT]	$\Delta T_{rest}$ [days]	$v_{Fe II}$ [km/s]	$v_{Si II}$ [km/s]
GRB171205A-SN2017iuk	40	0.0368	2017-12-29 06:13:23.00	23.10		$7131_{-1059}^{+937}$
GRB171205A-SN2017iuk	25	0.0368	2017-12-27 05:18:15.00	21.14	$14221_{-913}^{+1291}$	$8342_{-944}^{+1935}$
GRB171205A-SN2017iuk	31	0.0368	2017-12-30 05:47:05.00	24.05	$11894_{-936}^{+1327}$	$5928_{-1400}^{+698}$
GRB171205A-SN2017iuk	41	0.0368	2017-12-26 06:07:59.00	20.21	$13704_{-998}^{+1067}$	$9230_{-727}^{+897}$
GRB171205A-SN2017iuk	51	0.0368	2017-12-30 06:37:58.00	24.08		$6767_{-658}^{+665}$
GRB171205A-SN2017iuk	40	0.0368	2017-12-26 06:44:04.00	20.23		$9308_{-273}^{+343}$
GRB171205A-SN2017iuk	51	0.0368	2018-01-05 05:12:59.00	29.81		$4092_{-795}^{+793}$
GRB171010A-SN2017htp	8	0.328	2017-11-01 03:00:00	16.06	$28601_{-2740}^{+3874}$	
GRB180728A-SN2018fip	1200	0.117	2018-08-21 02:04:46.361	20.91		$6959_{-434}^{+496}$
GRB180728A-SN2018fip	30	0.117	2018-08-21 01:52:19	20.90		$6363_{-308}^{+376}$
GRB180728A-SN2018fip	30	0.117	2018-07-28 17:29:38.000	0.00		$6490_{-228}^{+245}$
GRB180728A-SN2018fip	600	0.117	2018-09-08 01:30:40.040	37.00	$21477_{-318}^{+372}$	
SN2020bvc	61	0.025235	2020-03-02 04:04:48	26.82	$20150_{-636}^{+602}$	$10321_{-330}^{+320}$
SN2020bvc	81	0.025235	2020-03-22 13:40:48	46.72	$17786_{-346}^{+347}$	$9615_{-254}^{+235}$
SN2020bvc	105	0.025235	2020-02-12 11:16:48	8.58	$26242_{-394}^{+353}$	$21993_{-376}^{+513}$
SN2020bvc	12	0.025235	2020-02-09 08:52:48	5.56	$29535_{-1666}^{+1994}$	$29944_{-3627}^{+1575}$
SN2020bvc	10	0.025235	2020-02-13 08:52:48	9.46	$28373_{-898}^{+1272}$	
SN2020bvc	31	0.025235	2020-02-08 05:52:18.00	4.46	$34948_{-2731}^{+2194}$	
SN2020bvc	12	0.025235	2020-02-21 08:52:48	17.26	$28422_{-2071}^{+1887}$	$18775_{-675}^{+901}$
SN2020bvc	71	0.025235	2020-02-16 04:04:48	12.19	$27014_{-1155}^{+1098}$	$20459_{-402}^{+590}$
SN2020bvc	7	0.025235	2020-02-15 08:52:48	11.41	$26772_{-1126}^{+1810}$	$18349_{-1571}^{+1032}$
SN2020bvc	5	0.025235	2020-02-07 08:52:48	3.61	$31514_{-631}^{+829}$	
SN2020bvc	21	0.025235	2020-03-17 06:28:48	41.55	$16643_{-1090}^{+611}$	$9796_{-3452}^{+1336}$

**Notes.** Each line in the table represents one observation. The name of the event, SG filter width, redshift ( $z$ ), observation date of the spectrum and rest-frame time relative to the explosion date ( $\Delta T_{rest}$ ) are all given. The velocities (and uncertainties) of the Fe II ( $v_{Fe II}$ ) and Si II ( $v_{Si II}$ ) features are reported for each observation. In some cases, no velocity is reported for a feature, for example because the wavelength range of the feature in question was not covered by the spectrum.

**Table 3.** Fit results for Fe II velocity evolution in type Ic-BL SNe and GRB-SNe.

Event name	Type	$a$ [ $10^3$ kms/s]	$b$	$A$ [ $10^3$ km/s]	$\alpha_1$	$\alpha_2$	$t_b$ [days]	$s$	Best fit	Sample
GRB980425-SN1998bw	GRB-SN	$52^{+4}_{-4}$	$-0.18^{+0.03}_{-0.03}$	$29.4^{+0.7}_{-0.8}$	$-0.51^{+0.11}_{-0.07}$	$-0.06^{+0.02}_{-0.02}$	$14^{+2}_{-2}$	-20	BPL	Gold
GRB030329-SN2003dh	GRB-SN	$57^{+6}_{-7}$	$-0.21^{+0.04}_{-0.04}$	$34^{+7}_{-5}$	$-0.3^{+1.3}_{-0.1}$	$-0.2^{+1.2}_{-0.1}$	$8^{+2}_{-10}$	-20	PL	Silver
GRB060218-SN2006aj	GRB-SN	$37^{+2}_{-3}$	$-0.20^{+0.03}_{-0.03}$	$21^{+1}_{-1}$	$-0.27^{+3.05}_{-0.09}$	$-0.26^{+3.14}_{-0.07}$	$18^{+4}_{-5}$	20	PL	Gold
GRB100316D-SN2010bh	GRB-SN	$100^{+20}_{-30}$	$-0.41^{+0.10}_{-0.10}$	$33^{+1}_{-2}$	$-0.23^{+0.04}_{-0.04}$	$-1.8^{+0.6}_{-0.4}$	$22^{+2}_{-2}$	20	BPL	Bronze
GRB120422A-SN2012bz	GRB-SN	$70^{+20}_{-40}$	$-0.4^{+0.2}_{-0.1}$	$22^{+3}_{-4}$	$-0.5^{+3.3}_{-0.3}$	$-0.8^{+3.1}_{-0.5}$	$20^{+2}_{-3}$	20	PL	Silver
GRB130702A-SN2013dx	GRB-SN	$40^{+3}_{-3}$	$-0.27^{+0.03}_{-0.03}$	$17^{+1}_{-1}$	$-0.25^{+0.08}_{-0.59}$	$-0.23^{+0.09}_{-0.59}$	$21^{+5}_{-3}$	-20	PL	Gold
GRB161219B-SN2016jca	GRB-SN	$100^{+10}_{-20}$	$-0.52^{+0.07}_{-0.06}$						PL	Silver
GRB171205A-SN2017iuk	GRB-SN	$90^{+10}_{-10}$	$-0.59^{+0.05}_{-0.05}$	$28^{+9}_{-4}$	$-0.55^{+0.09}_{-1.13}$	$-0.54^{+0.10}_{-1.30}$	$7^{+1}_{-7}$	20	PL	Gold
SN2020bvc	GRB-SN	$46^{+3}_{-4}$	$-0.24^{+0.03}_{-0.02}$	$24^{+3}_{-4}$	$-0.25^{+0.05}_{-0.04}$	$-0.25^{+0.05}_{-0.04}$	$14^{+7}_{-8}$	-20	PL	Gold
1997ef	Ic-BL	$74^{+6}_{-6}$	$-0.51^{+0.03}_{-0.03}$						PL	Gold
1997dq	Ic-BL	$14^{+4}_{-6}$	$-0.21^{+0.09}_{-0.08}$						PL	Bronze
1998ey	Ic-BL	$120^{+30}_{-40}$	$-0.9^{+0.1}_{-0.1}$						PL	Bronze
2002ap	Ic-BL	$34^{+3}_{-3}$	$-0.11^{+0.03}_{-0.03}$	$24.1^{+0.5}_{-0.6}$	$-3^{+1}_{-1}$	$0.01^{+0.02}_{-0.02}$	$5.3^{+0.2}_{-0.4}$	-5	BPL	Bronze
2002bl	Ic-BL	$30^{+10}_{-50}$	$-0.2^{+0.4}_{-0.2}$						PL	Bronze
2003bg	Ic-BL/IIb	$48^{+5}_{-6}$	$-0.56^{+0.04}_{-0.04}$						PL	Gold
2003jd	Ic-BL	$35^{+3}_{-4}$	$-0.29^{+0.04}_{-0.03}$						PL	Silver
2005da	Ic-BL	$25^{+3}_{-4}$	$0.00^{+0.06}_{-0.06}$						PL	Exclude
2007ce	Ic-BL	$110^{+50}_{-50}$	$-0.7^{+0.1}_{-0.2}$						PL	Silver
2007ru	Ic-BL	$40^{+5}_{-6}$	$-0.29^{+0.06}_{-0.05}$	$24^{+2}_{-1}$	$-0.28^{+0.09}_{-0.63}$	$-0.2^{+0.2}_{-0.6}$	$8^{+2}_{-5}$	20	PL	Gold
2007I	Ic-BL	$21^{+4}_{-6}$	$-0.2^{+0.1}_{-0.1}$						PL	Bronze
2007D	Ic/Ic-BL	$31^{+3}_{-5}$	$-0.13^{+0.06}_{-0.04}$						PL	Gold
2008ew	Ic/Ic-BL	$60^{+50}_{-90}$	$-0.5^{+0.3}_{-0.5}$						PL	Exclude
2009dr	Ic-BL	$19^{+2}_{-3}$	$-0.12^{+0.06}_{-0.05}$						PL	Bronze
2009bb	Ic-BL (pec.)	$47^{+4}_{-4}$	$-0.20^{+0.02}_{-0.02}$	$27.3^{+0.7}_{-0.6}$	$-2^{+1}_{-1}$	$-0.12^{+0.02}_{-0.02}$	$9.4^{+0.2}_{-0.5}$	-5	BPL	Gold
2009ca	Ic-BL/SLSN	$22^{+4}_{-23}$	$-0.18^{+0.26}_{-0.08}$						PL	Silver
2010ah	Ic-BL	$90^{+60}_{-70}$	$-0.9^{+0.3}_{-0.4}$						PL	Bronze
PTF10qts	Ic-BL	$31^{+7}_{-13}$	$-0.10^{+0.11}_{-0.09}$						PL	Exclude
PTF10gvb	Ic-BL/SLSN	$30^{+10}_{-60}$	$-0.2^{+0.5}_{-0.3}$						PL	Exclude
PTF12gzk	Ic/Ic-BL	$47^{+2}_{-3}$	$-0.29^{+0.02}_{-0.02}$	$15.8^{+0.6}_{-0.7}$	$-0.36^{+0.03}_{-0.29}$	$-0.1^{+0.3}_{-0.1}$	$31^{+5}_{-5}$	-20	PL	Gold
2012ap	Ic-BL (pec.)	$24.1^{+0.9}_{-1.0}$	$-0.09^{+0.01}_{-0.01}$						PL	Gold
iPTF13ebw	Ic-BL	$60^{+10}_{-10}$	$-0.29^{+0.06}_{-0.07}$						PL	Gold
2013bn	Ic-BL	$24^{+7}_{-10}$	$-0.1^{+0.1}_{-0.1}$						PL	Exclude
2014ad	Ic-BL	$86^{+6}_{-7}$	$-0.35^{+0.02}_{-0.03}$						PL	Gold
iPTF15dqg	Ic-BL	$80^{+20}_{-30}$	$-0.54^{+0.08}_{-0.08}$						PL	Gold

**Table 3.** continued.

Event name	Type	$a$ [ $10^3$ kms/s]	$b$	A [ $10^3$ km/s]	$\alpha_1$	$\alpha_2$	$t_b$ [days]	$s$	Best fit	Sample
iPTF15eov	Ic-BL	$13^{+6}_{-20}$	$0.1^{+0.3}_{-0.2}$						PL	Exclude
2016P	Ic/Ic-BL	$17^{+1}_{-2}$	$0.06^{+0.04}_{-0.03}$						PL	Exclude
2016coi	Ic/Ic-BL	$45^{+2}_{-2}$	$-0.27^{+0.01}_{-0.01}$	$16.8^{+0.5}_{-0.6}$	$-0.36^{+0.02}_{-0.02}$	$-0.06^{+0.04}_{-0.05}$	$28^{+4}_{-4}$	-20	BPL	Gold
2017dcc	Ic-BL	$25^{+5}_{-7}$	$-0.21^{+0.10}_{-0.09}$						PL	Silver
2017cw	Ic-BL	$42^{+5}_{-8}$	$-0.21^{+0.05}_{-0.04}$						PL	Gold
2017ifh	Ic-BL	$160^{+60}_{-30}$	$-0.72^{+0.07}_{-0.14}$						PL	Bronze
2018gsk	Ic-BL	$10^{+2}_{-2}$	$-0.17^{+0.07}_{-0.06}$	$6.2^{+0.7}_{-0.8}$	$-0.2^{+1.8}_{-0.1}$	$-0.2^{+1.9}_{-0.1}$	$8^{+2}_{-8}$	-20	PL	Bronze
2018cbz	Ic-BL	$40^{+20}_{-60}$	$-0.4^{+0.4}_{-0.3}$						PL	Bronze
2018giu	Ic-BL	$24^{+3}_{-4}$	$-0.24^{+0.05}_{-0.05}$						PL	Gold
2020abdw	Ic/Ic-BL	$90^{+60}_{-70}$	$-0.8^{+0.2}_{-0.3}$						PL	Exclude

**Notes.** Columns show the event name and type, best fit type (power-law (PL) or broken power-law (BPL)) and sample that the event belongs to (Gold, Silver, Bronze, Exclude). For power-law fits, the Fe II velocity at  $t_0+1$  day ( $a$ ) and the slope of the evolution ( $b$ ) are listed. In cases where a broken power-law fit was used, the SN velocity at the break time ( $A$ ); the slopes of the power-law segments ( $\alpha_1$  and  $\alpha_2$ ); rest-frame time of the break ( $t_b$ ); and  $s$ , a parameter which controls the smoothness of the break; are given. In some cases a broken power-law fit was not attempted, and so there are no parameters to report.

**Table 4.** Fit results for Si II velocity evolution in Ic-BLs and GRB-SNe.

Event name	Type	$a$ [ $10^3$ kms/s]	$b$	A [ $10^3$ km/s]	$\alpha_1$	$\alpha_2$	$t_b$ [days]	$s$	Best fit	Sample
GRB980425-SN1998bw	GRB-SN	$150^{+20}_{-30}$	$-0.78^{+0.06}_{-0.06}$	$29^{+4}_{-6}$	$-0.7^{+0.2}_{-1.6}$	$-0.7^{+0.1}_{-1.5}$	$9^{+2}_{-2}$	20	PL	Gold
GRB030329-SN2003dh	GRB-SN	$140^{+30}_{-30}$	$-0.70^{+0.07}_{-0.09}$	$40^{+10}_{-10}$	$-0.6^{+0.2}_{-1.0}$	$-0.6^{+0.2}_{-1.1}$	$8^{+2}_{-8}$	20	PL	Gold
GRB060218-SN2006aj	GRB-SN	$55^{+7}_{-8}$	$-0.44^{+0.05}_{-0.05}$	$17.9^{+0.6}_{-1.1}$	$-0.27^{+0.06}_{-0.08}$	$-1.2^{+0.4}_{-0.3}$	$16^{+2}_{-1}$	20	BPL	Gold
GRB100316D-SN2010bh	GRB-SN	$60^{+10}_{-10}$	$-0.24^{+0.07}_{-0.07}$	$34^{+3}_{-4}$	$-0.2^{+0.4}_{-0.4}$	$-0.3^{+0.3}_{-0.4}$	$13^{+5}_{-5}$	20	PL	Silver
GRB120422A-SN2012bz	GRB-SN	$80^{+50}_{-70}$	$-0.6^{+0.3}_{-0.3}$						PL	Bronze
GRB130702A-SN2013dx	GRB-SN	$46^{+8}_{-13}$	$-0.48^{+0.10}_{-0.07}$	$13.7^{+0.6}_{-0.6}$	$-0.31^{+0.02}_{-0.02}$	$-2.1^{+0.6}_{-0.4}$	$20^{+1}_{-1}$	20	BPL	Gold
GRB171205A-SN2017iuk	GRB-SN	$100^{+40}_{-50}$	$-0.9^{+0.1}_{-0.2}$	$12^{+2}_{-2}$	$-0.1^{+0.2}_{-0.3}$	$-3.2^{+0.6}_{-0.5}$	$20^{+2}_{-2}$	5	BPL	Gold
SN2020bvc	GRB-SN	$80^{+20}_{-20}$	$-0.56^{+0.08}_{-0.07}$	$24^{+7}_{-6}$	$-0.5^{+0.2}_{-0.6}$	$-0.5^{+0.2}_{-0.5}$	$9^{+3}_{-9}$	20	PL	Gold
1997dq	Ic-BL	$27^{+4}_{-6}$	$-0.18^{+0.05}_{-0.04}$						PL	Bronze
1997ef	Ic-BL	$180^{+20}_{-10}$	$-0.99^{+0.03}_{-0.04}$	$12^{+1}_{-1}$	$-0.58^{+0.08}_{-0.09}$	$-2.0^{+0.2}_{-0.3}$	$23^{+2}_{-2}$	20	BPL	Gold
1998ey	Ic-BL	$130^{+40}_{-40}$	$-1.2^{+0.1}_{-0.1}$	$9^{+4}_{-4}$	$-1.1^{+0.9}_{-1.0}$	$-1^{+1}_{-1}$	$12^{+4}_{-7}$	20	PL	Bronze
2002bl	Ic-BL	$140^{+70}_{-50}$	$-0.9^{+0.1}_{-0.3}$						PL	Bronze
2002ap	Ic-BL	$180^{+20}_{-10}$	$-1.09^{+0.03}_{-0.05}$	$14^{+2}_{-2}$	$-0.8^{+0.1}_{-0.1}$	$-1.7^{+0.2}_{-0.2}$	$13^{+1}_{-1}$	20	PL	Gold
2003jd	Ic-BL	$45^{+2}_{-3}$	$-0.52^{+0.02}_{-0.02}$						PL	Silver
2003bg	Ic-BL/IIfb	$35^{+6}_{-9}$	$-0.65^{+0.07}_{-0.06}$	$3.9^{+0.8}_{-1.5}$	$-0.8^{+0.2}_{-0.7}$	$-0.5^{+0.6}_{-0.4}$	$15^{+6}_{-7}$	-5	PL	Gold
2005da	Ic-BL	$25^{+6}_{-8}$	$-0.1^{+0.1}_{-0.1}$						PL	Exclude
2007I	Ic-BL	$31^{+6}_{-9}$	$-0.6^{+0.1}_{-0.1}$						PL	Bronze
2007ce	Ic-BL	$160^{+50}_{-30}$	$-0.84^{+0.05}_{-0.11}$						PL	Exclude

**Table 4.** Fit results for the evolution of Si II for Ic-BLs with and without GRBs.

Event name	Type	$a$ [ $10^3$ kms/s]	$b$	$A$ [ $10^3$ km/s]	$\alpha_1$	$\alpha_2$	$t_b$ [days]	$s$	Best fit	Sample
2007D	Ic/Ic-BL	$20^{+4}_{-8}$	$-0.13^{+0.13}_{-0.08}$						PL	Silver
2007ru	Ic-BL	$52^{+8}_{-10}$	$-0.44^{+0.06}_{-0.06}$	$18^{+3}_{-3}$	$-0.4^{+0.1}_{-0.3}$	$-0.3^{+0.2}_{-0.2}$	$14^{+5}_{-7}$	20	PL	Gold
2008ew	Ic/Ic-BL	$11^{+6}_{-37}$	$-0.1^{+0.4}_{-0.2}$						PL	Exclude
2009ca	Ic-BL/SLSN	$17^{+4}_{-9}$	$-0.25^{+0.15}_{-0.09}$						PL	Silver
2009bb	Ic-BL (pec.)	$140^{+10}_{-20}$	$-0.75^{+0.03}_{-0.03}$	$26^{+4}_{-7}$	$-0.73^{+0.09}_{-0.90}$	$-0.6^{+0.2}_{-0.9}$	$10^{+3}_{-3}$	20	PL	Gold
2010ah	Ic-BL	$110^{+60}_{-60}$	$-1.2^{+0.2}_{-0.3}$						PL	Bronze
PTF10gvb	Ic-BL/SLSN	$90^{+60}_{-70}$	$-1.1^{+0.3}_{-0.4}$						PL	Exclude
PTF10vgv	Ic-BL	$30^{+10}_{-60}$	$-0.6^{+0.5}_{-0.3}$						PL	Exclude
PTF10qts	Ic-BL	$32^{+9}_{-21}$	$-0.5^{+0.1}_{-0.1}$						PL	Gold
PTF10xem	Ic-BL	$150^{+60}_{-30}$	$-0.76^{+0.07}_{-0.17}$						PL	Silver
2010ay	Ic-BL	$16^{+7}_{-34}$	$0.1^{+0.3}_{-0.2}$						PL	Exclude
PTF11qcj	Ic-BL	$27^{+7}_{-15}$	$-0.25^{+0.12}_{-0.08}$						PL	Silver
2012ap	Ic-BL (pec.)	$60^{+10}_{-10}$	$-0.57^{+0.07}_{-0.07}$	$17^{+3}_{-5}$	$-0.5^{+0.3}_{-0.4}$	$-0.5^{+0.3}_{-0.5}$	$12^{+5}_{-6}$	20	PL	Gold
PTF12gzk	Ic/Ic-BL	$80^{+10}_{-20}$	$-0.58^{+0.07}_{-0.07}$	$16.3^{+0.4}_{-0.4}$	$-0.33^{+0.02}_{-0.02}$	$-1.12^{+0.05}_{-0.05}$	$19.0^{+0.7}_{-0.7}$	20	BPL	Gold
iPTF13ebw	Ic-BL	$140^{+60}_{-40}$	$-0.9^{+0.1}_{-0.2}$						PL	Silver
2013bn	Ic-BL	$60^{+40}_{-70}$	$-0.6^{+0.3}_{-0.3}$						PL	Exclude
2014ad	Ic-BL	$56^{+4}_{-4}$	$-0.31^{+0.02}_{-0.02}$						PL	Gold
iPTF15dgg	Ic-BL	$110^{+20}_{-30}$	$-0.73^{+0.07}_{-0.07}$						PL	Gold
iPTF15eov	Ic-BL	$100^{+60}_{-70}$	$-0.6^{+0.1}_{-0.3}$						PL	Bronze
2016gox	Ic-BL	$110^{+60}_{-60}$	$-0.7^{+0.1}_{-0.2}$						PL	Bronze
2016coi	Ic/Ic-BL	$58^{+6}_{-7}$	$-0.51^{+0.04}_{-0.04}$	$16.4^{+0.4}_{-0.4}$	$-0.21^{+0.02}_{-0.02}$	$-1.18^{+0.04}_{-0.04}$	$17.8^{+0.5}_{-0.5}$	20	BPL	Gold
2016P	Ic/Ic-BL	$160^{+40}_{-30}$	$-1.23^{+0.06}_{-0.12}$						PL	Silver
2016ilj	Ic-BL	$100^{+50}_{-60}$	$-0.6^{+0.2}_{-0.2}$						PL	Bronze
2017fwm	Ib/Ic-BL	$90^{+60}_{-70}$	$-1.1^{+0.2}_{-0.3}$						PL	Bronze
2017dcc	Ic-BL	$50^{+10}_{-10}$	$-0.6^{+0.1}_{-0.1}$						PL	Silver
2017cw	Ic-BL	$25^{+4}_{-11}$	$-0.18^{+0.12}_{-0.06}$						PL	Silver
2018giu	Ic-BL	$50^{+40}_{-80}$	$-0.7^{+0.3}_{-0.4}$						PL	Exclude
2018cbz	Ic-BL	$80^{+30}_{-50}$	$-0.7^{+0.2}_{-0.2}$	$14^{+1}_{-2}$	$-0.7^{+1.8}_{-0.6}$	$-0.5^{+1.8}_{-0.5}$	$16^{+3}_{-3}$	20	PL	Bronze
2018gsk	Ic-BL	$8^{+4}_{-17}$	$0.1^{+0.4}_{-0.2}$						PL	Exclude
2020abdw	Ic/Ic-BL	$110^{+70}_{-60}$	$-0.9^{+0.2}_{-0.3}$						PL	Bronze

**Notes.** Columns show the event name and type, best fit type (power-law (PL) or broken power-law (BPL)) and sample that the event belongs to (Gold, Silver, Bronze, Exclude). For power-law fits, the Si II velocity at  $t_0+1$  day ( $a$ ) and the slope of the evolution ( $b$ ) are listed. In cases where a broken power-law fit was used, the SN velocity at the break time ( $A$ ); the slopes of the power-law segments ( $\alpha_1$  and  $\alpha_2$ ); rest-frame time of the break ( $t_b$ ); and  $s$ , a parameter which controls the smoothness of the break; are given. In some cases a broken power-law fit was not attempted, and so there are no parameters to report.