Detailed description of the problem:
A serious problem occurs on the operating software of the all-sky camera (Auto_Cam_C??.exe). The timing of observation can gradually delay with time from the start of the observation of the night. This is due to memory overflow after a long-time operation of Auto_Cam.exe. The maximum delay can be more than 1-hour. The timing of exposure recorded in the filename (exposure start time) does not indicate this timing delay, because this timing is calculated from the scheduled observation start time. This means that the timing shown in the filename can be incorrect. To check whether the time in the filename is correct or not, we need to compare the timing of the filename with the time of file production (time stamp = end time of exposure) recorded on Windows PC, or with the timing of exposure recorded in the observation log files. The results of the comparison were calculated by Dr. Otsuka as files for each station, each night.

station	abb.	camera number	time problem start	time problem fixed	comment	check by Dr. Otsuka (171230/180103)	preparation of time-stamp corrected image files on 180122 by Dr. Otsuka
Paratunka	PTK	C10 (CA)	161011	171227	PC restart has been done rather frequently.	C10 (CA): Paratunka, 161011-171227 ・160915 - 170124: no data ・checked by using Log files for 20160915-171227 ・Delay of more than 30s was observed for the following dates. 　170128 170131 170201 170204 170205 170206 170207 170216 　170223 170228 170420 170421 170422 170423 170424 170425 　170426 171101 171102 171107 171108 171109 171110 171111 　171112 171113 171114 171219 171220 171221 171222 171223 ・file production time cannot be used to correct the time.	
Magadan	MGD	C11 (CB)	140718	to be fixed	By checking the time stamp of the files on UNIX, some nights show timing errors.	C11 (CB) Magadan, 140718- 　・ Log file is not received yet. Checked by TIF file tme on unix. 　＊ There are max 250 sec delay for 140324-141026 due to some other problem. Maybe file close problem happens? 　・For 141117-170915, the difference between TIF filename time and file production time is 1-2 seconds. So there seems to be no problem.	
Eureka	ERK	C15 (CF)	151022	180115 0115UT	The data of 2015 was corrected using time stamp of the files by Dr. Hosokawa. The observation after Sept.2016 took more interval between exposures. Thus this problem may happen less frequently.	C15 (CF): Eureka, 151022- 　・ Log file is not received yet. Checked by TIF file tme on unix. 　・after 160930, the delay is mostly less thn 20s. Max delay is 174s. 　・Correct using log file time.	171209まで処理済み。後日、追加の可能性あり
Kapuskasing	KAP	C16 (CG)	170225	171226 0411UT	By checking the time stamp of the files on UNIX, we found that for 170323-170517, time stamp is ~1min delayed at the beginning of the observation of the night, and the delay increases with time.	C16 (CG): Kapuskasing, 170225-171226 0411UT 　・Checked by Log file (time difference between nowtime after acquire Start and TIF filename) 　・The following dates show maximum delay of more than 30 s. 　170226 170308 170318 170323 170324 170325 170326 170327 170328 170329 　170330 170331 170401 170402 170403 170404 170405 170414 170415 170416 　170417 170418 170419 170420 170421 170422 170423 170424 170425 170426 　170427 170428 170429 170430 170501 170502 170503 170504 170514 170515 　170516 170517 　・These delays can be corrected using Log file time.	問題のあった170226-171225の期間すべて処理済み
Nain	NAI	C17 (CH)	observation not started	to be fixed	observation has not been started. The problem should be fixed by the start of the observation.	C17 (CH):observation not started	
Nyrola	NYR	C18 (CI)	170124	171226 0523UT	by checking the time stamp of the files on UNIX, we found that there is no time difference between the time in the filename and time stamp of the file.	C18 (CI): Nyrola, 170124-171226 0523UT 　・Checked by Log file (time difference between nowtime after acquire Start and TIF filename) 　・The following dates show maximum delay of more than 30 s. 　170125 170217 170218 170219 170220 170221 170222 170223 170224 170225 　170226 170227 170228 170301 170302 170303 170304 170305 170306 170307 　170315 170316 170317 170318 170319 170320 170321 170322 170323 170324 　170325 170326 170327 　・These delays can be corrected using Log file time.	170224-171022まで処理済み。171023-171225は後日に追加
Gakona	GAK	C19 (CJ)	170303	171226 0406UT	By checking the time stamp of the files on UNIX, some recent nights show timing errors.	C19 (CJ): Gakona, 170303-171226 0406UT 　・Checked by Log file (time difference between nowtime after acquire Start and TIF filename) 　・The following dates show maximum delay of more than 1 HOUR. 　171118 171119 171120 171121 171122 171123 171124 171125 　・These delays can be corrected using Log file time.	問題のあった170303-171225の期間すべて処理済み
Istok	IST	C20 (CK)	171029	180217 04:45:31UT		C20 (CK): Istok 171029- From 171028 to 180124, the delay is within 5 second. Only 180124, the delay was 9 second. On 180213, the time stamp was delayed for 5 hours for whole night. In 180216, the time stamp delays during the observation, and delayed maximum 17 min.	Time correction was made up to 180216.
Husafell	HUS	C21 (CL)	170321	171227 1010UT	By checking the time stamp of the files on UNIX, some recent nights show timing errors.	C21 (CL): Husafell, 170321-171227 1010UT 　・Checked by Log file (time difference between nowtime after acquire Start and TIF filename) 　・The following dates show maximum delay of more than 1 HOUR. 　171114 171115 171116 171117 171118 171119 171120 171121 171122 171123 　171124 171125 171126 171127 171128 171209 171210 171211 171212 171213 　171214 171215 171216 171217 171218 171219 171220 171221 　・These delays can be corrected using Log file time.	問題のあった170321-171227の期間すべて処理済み