

[SS 1] cloud and imaging

Results in EPODOC 791

[SS 2] 1 and coverage

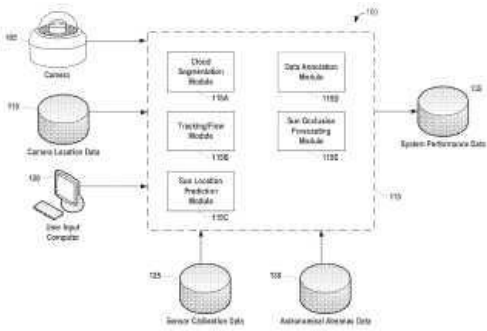
Results in EPODOC 7

[SS 3] ..li



1/7 © EPODOC / EPO

- PN - [AU2015248020](#) A1 20161201
- PR - US201414255154 20140417; WO2015US25024 20150409
- AP - AU20150248020 20150409
- DT - I
- CCI - [G01W1/10](#) ; [G01W1/12](#)
- CUI - [G01J1/4204](#)
- PA - SIEMENS AG
- TI - Short term **cloud coverage** prediction using ground-based all sky **imaging**
- AB - A method for predicting short-term **cloud coverage** includes a computer calculating an estimated **cloud** velocity field at a current time value based on sky images. The computer determines a segmented **cloud** model based on the sky images, a future sun location corresponding to a future time value, and sun pixel locations at the future time value based on the future sun location. Next, the computer applies a back-propagation algorithm to the sun pixel locations using the estimated **cloud** velocity field to yield propagated sun pixel locations corresponding to a previous time value. Then, the computer predicts **cloud coverage** for the future sun location based on the propagated sun pixel locations and the segmented **cloud** model.



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- PN - [CN105844000](#) A 20160810
- PR - CN20161159357 20160318
- AP - CN20161159357 20160318
- DT - I
- CNOI - [G06F17/5036](#)
- PA - QUANQUAN-TECHNOLOGY CO LTD
- TI - MCC ocean surface current inversion method
- AB - The invention relates to an MCC (Maximum Correlation Coefficient) ocean surface current inversion method. The method comprises the steps of preprocessing an MODIS (Moderate Resolution **Imaging** Spectroradiometer) satellite; performing **cloud coverage** detection by utilizing a comprehensive optimization **cloud** detection algorithm; for a clear sky, selecting ocean surface temperature and 550nm reflectivity data as tracers, and performing MMC inversion to obtain an ocean surface current field; for ocean surface current data missing to be measured, performing interpolation replenishment by utilizing a DINEOF (Data Interpolating Empirical Orthogonal Functions) method; and performing variational assimilation optimization adjustment to obtain short-time mean surface current. The method has the beneficial effects that the **cloud** detection method proposed by the invention improves the identification accuracy of low clouds of sea surface, broken clouds and partial **cloud**-covered picture elements, removes interferences for calculating the ocean surface current in next step more accurately, and ensures the precision of subsequent results. The interpolation based global optimization adjustment method for the ocean surface current field, proposed by the invention, greatly expands the **coverage** range of inversion results, remarkably enhances the inversion precision, and extends the application range of the inversion method.

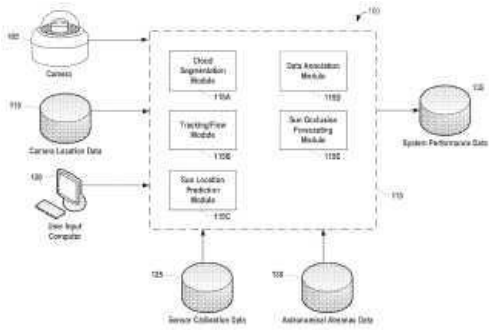
3/7 © EPODOC / EPO

- PN - [JP2015215252](#) A 20151203
- PNFP - JP6184901B B2 20170823
- PR - JP20140098689 20140512
- AP - JP20140098689 20140512
- DT - I
- CT - || STSE (A)
[WO2013111552](#) A1 20130801 [] (PANASONIC CORP [JP]);
[JP2010218434](#) A 20100930 [] (PASCO CORP);
[JP2001143054](#) A 20010525 [] (HITACHI LTD);
[JP2004240547](#) A 20040826 [] (HITACHI SOFTWARE ENG);

	JP2007279930 A 20071025 [] (HITACHI LTD); JP2005241455 A 20050908 [] (FUJITSU LTD)
CTNP	- STSE (A) - [] - 竹内渉、他,"MOD I Sデータを用いた合成画像作成手法の開発",写真測量とリモートセンシング,(2004),vol.第43巻第5号,page P・36-48
FI	- G01W1/08&P; G06T1/00&285; G06T7/00&640
FT	- 5B057/AA14; 5B057/CA08; 5B057/CA12; 5B057/CA16; 5B057/CB08; 5B057/CB12; 5B057/CB16; 5B057/CE08; 5B057/CE10; 5B057/DC32
PA	- (A) HITACHI SOLUTIONS LTD
TI	- (A) SATELLITE IMAGE DATA PROCESSING DEVICE, SATELLITE IMAGE DATA PROCESSING SYSTEM, AND METHOD AND PROGRAM FOR PROCESSING SATELLITE IMAGE DATA
AB	- (A) PROBLEM TO BE SOLVED: To provide a satellite image data processing device capable of automatically creating a wide range of joined satellite image from a large amount of satellite image data.SOLUTION: A satellite image data processing device 1 joins a plurality of pieces of satellite image data the imaging conditions of which are different from each other to automatically create satellite image data including regions of the plurality of pieces of satellite image data, the satellite image data processing device 1 comprising: a grid data creation unit 3 that receives satellite image data which is desired to be joined, a cloud coverage ratio condition which is a processing condition for joining the satellite image data, and a grid parameter which indicates a size of a grid to partition the satellite image into a plurality of regions, and creates grid data that covers whole of the satellite image data on the basis of the grid parameter; a cloud coverage ratio calculation processing unit 7 that calculates, for the satellite image date, a cloud coverage ratio in the grid partitioned by the grid data; and a satellite image data joining processing unit 8 that joins the satellite image by overlapping the satellite image data in such a manner that the cloud coverage ratio is the smallest in an overlapping direction.

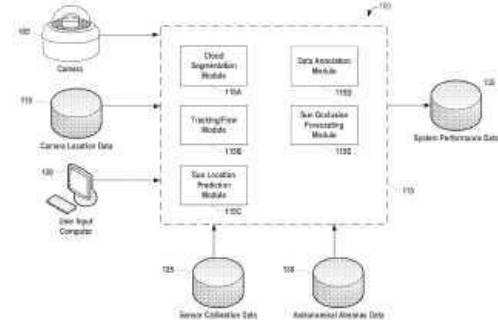
4/7 © EPODOC / EPO

PN	- US2015301226 A1 20151022
PR	- US201414255154 20140417
AP	- US201414255154 20140417
DT	- *: Rep
CT	- R141 (A1) US2010198420 A1 20100805 [] (RETTGER PHILIP [US], et al); US2010309330 A1 20101209 [] (BECK BERNHARD [DE]); US2013152997 A1 20130620 [] (YAO YI [US], et al); US2014083413 A1 20140327 [] (BIBI OFIR [IL], et al); US2014195159 A1 20140710 [] (MEWES JOHN J [US], et al); US2013258068 A1 20131003 [] (SCHMIDT MICHAEL [DE], et al)
CCI	- G01W1/10 ; G01W1/12
CUI	- G01J1/4204
PA	- SIEMENS AG [DE]
TI	- Short term cloud coverage prediction using ground-based all sky imaging
AB	- A method for predicting short-term cloud coverage includes a computer calculating an estimated cloud velocity field at a current time value based on sky images. The computer determines a segmented cloud model based on the sky images, a future sun location corresponding to a future time value, and sun pixel locations at the future time value based on the future sun location. Next, the computer applies a back-propagation algorithm to the sun pixel locations using the estimated cloud velocity field to yield propagated sun pixel locations corresponding to a previous time value. Then, the computer predicts cloud coverage for the future sun location based on the propagated sun pixel locations and the segmented cloud model.



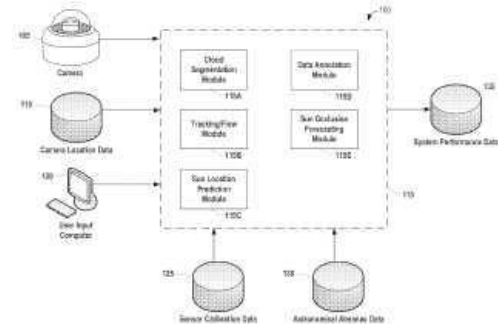
5/7 © EPODOC / EPO

PN - [EP3132291](#) A1 20170222
PR - US201414255154 20140417; WO2015US25024 20150409
AP - EP20150717774 20150409
DT - I
CCI - [G01W1/10](#) ; [G01W1/12](#)
CUI - [G01J1/4204](#)
PA - SIEMENS AG [DE]
TI - SHORT TERM **CLOUD COVERAGE** PREDICTION USING GROUND-BASED ALLSKY **IMAGING**



6/7 © EPODOC / EPO

PN - [WO2015160604](#) A1 20151022
PR - US201414255154 20140417
AP - WO2015US25024 20150409
DT - **
CT - |EP| ISR (A1)
[US2013152997](#) A1 20130620 [XI] (YAO YI [US], et al)
[X] 1,2,11,12,19,20
* abstract *
* figures 1-4 *
* paragraphs [0014] - [0031] *
[I] 3-10,13-18;
[XP055194761](#) A[A];
[EP2645135](#) A1 20131002 [A] (GEN ELECTRIC [US])
[A] 1-20
* abstract *
* figures 1, 6 *
* paragraphs [0015] - [0017] *
* paragraphs [0029] - [0040] *
CTNP - |EP| ISR (A1)
[A] - Ricardo Marquez ET AL, "SHORT TERM DNI FORECASTING WITH SKY IMAGING TECHNIQUES", Denver,Co, ISBN 978-1-62-276092-3, (20121001), pages 934 - 941, URL: https://ases.conference-services.net/resources/252/2859/pdf/SOLAR2012_0574_full paper.pdf, (20150610), XP055194761
[A] 1-20
* abstract *
* figures 1, 3,4 *
* pages 935-938 *
CCI - [G01W1/10](#) ; [G01W1/12](#)
CUI - [G01J1/4204](#)
PA - SIEMENS AG [DE]; SIEMENS CORP [US]
TI - SHORT TERM **CLOUD COVERAGE** PREDICTION USING GROUND-BASED ALLSKY **IMAGING**
AB - A method for predicting short-term **cloud coverage** includes a computer calculating an estimated **cloud** velocity field at a current time value based on sky images. The computer determines a segmented **cloud** model based on the sky images, a future sun location corresponding to a future time value, and sun pixel locations at the future time value based on the future sun location. Next, the computer applies a back-propagation algorithm to the sun pixel locations using the estimated **cloud** velocity field to yield propagated sun pixel locations corresponding to a previous time value. Then, the computer predicts **cloud coverage** for the future sun location based on the propagated sun pixel locations and the segmented **cloud** model.



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PN - [CN103954269](#) A 20140730
PNFP - CN103954269B B 20160601
PR - CN20141177880 20140429
AP - CN20141177880 20140429
DT - I
CT - - || STSE (A)
[CN103093098](#) A 20130508 [A] (UNIV WUHAN)
[A]
[CN103500449](#) A 20140108 [A] (XI AN INST SPACE RADIO TECH)

	[A] US2007087756 A1 20070419 [A] (HOFFBERG STEVEN M [US])
	[A]
CTNP	- STSE (A) [A] 马芳 等, "多通道卫星云图云检测方法的研究", <<大气科学>>, (20070131), vol. 31, no. 1, PAGE 119 - 128 [A] 1-2 第119-128页
CNOI	- (A) G01C11/00 ; G01S17/89 ; G01S7/41
PA	- (A) AEROSPACE DONGFANGHONGSATELLITE COLTD
TI	- (A) Satellite cloud -avoiding observation method
AB	- (A) The invention discloses a satellite cloud -avoiding observation method which comprises the following steps: (1) respectively mounting a cloud identification device and an imaging load on the ground of a satellite along the satellite flight direction, wherein the cloud identification device is in the front, and the imaging load is in the rear; (2) determining the observation starting and ending positions of the imaging load in an orbit period in the imaging process aiming at a target area according to the attitude maneuver capability of the satellite; (3) enabling the view field of the cloud identification device and the view field of the imaging load to point to the target area through attitude maneuver between the satellite observation starting and ending positions, imaging the target area through the cloud identification device, calculating a cloud coverage rate, and transmitting an imaging load imaging starting construction or imaging stopping instruction according to a relationship between a calculation result and a preset threshold value; (4) repeating the step (3) in each orbit period, and thus finishing imaging of the target area. According to the method, due to additional arrangement of the cloud identification device and reasonable layout of the imaging load, cloud gap finding and satellite cloud -avoiding imaging are realized.