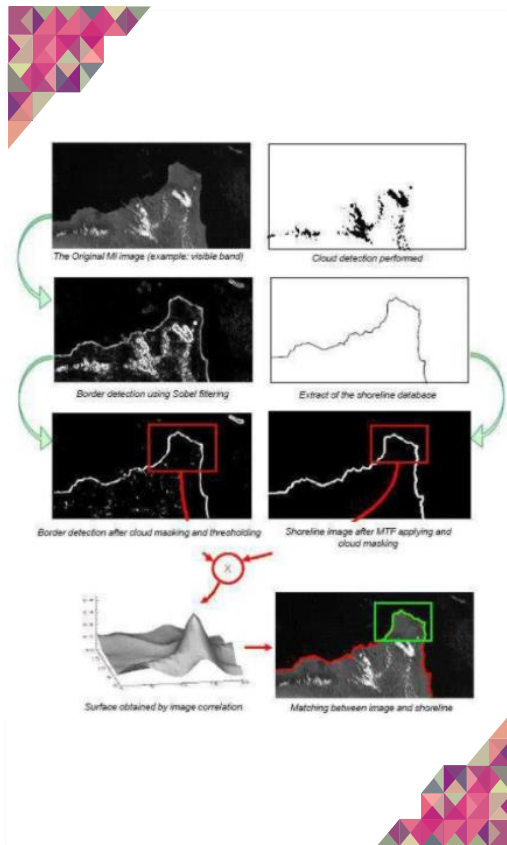


Climate/Environment

Representative Patent 03

- ❖ Title of Invention : **Satellite image geometry correction system and method therefor**
- ❖ Application Number. : KR2020-0074758



<Representative drawing>

Application of Technology and Field of Use

- ◆ **Areas of monitoring dumping of pollutants in specific areas**
- ◆ **Difficulty in geometric correction of observation image due to clouds and the like when monitoring pollutants**
 - If a wide area is set as a region of interest, even if the coastline on the ground is covered by clouds, it is possible to perform geometric correction by applying the coastline of other parts that are not covered as a landmark.
 - If a narrow area is set as a region of interest, geometric correction is difficult if a specific landmark is obscured by clouds, etc.

Features of Technology

- A cloud detection unit configured to receive image data observed from a satellite, set it as reference data, generate a cloud mark by recognizing a cloud pattern included in the reference data, and convert the cloud mark into a database
- A geometric correction unit configured to receive the image data observed from the satellite, and apply a previously set algorithm to perform geometric correction
- An additional geometric correction unit configured to determine an accuracy of the geometry correction performed by the geometric correction unit and, if the accuracy is less than a previously set reference value, re-perform the geometric correction using the cloud mark generated by the cloud detection unit

Climate/Environment

Representative Patent 03

Technical Effects

◆ Possible to perform geometric correction regardless of weather conditions

- Recognizes various cloud patterns from the geometrically corrected image data and builds a real-time DB by combining them with location information to perform geometric correction of observation images even when it is difficult to extract landmarks.

◆ Possible to minimize geometric correction distortion of image data of narrow area

- According to the role assigned to the satellite payload, geometric correction on the observed image data of a narrow area can be performed to minimize the geometric correction distortion that occurs in weather conditions where it is difficult to obtain landmark information.



<Ships dumping pollutants at sea>

Social, Environmental, Economical Effects

◆ Possible to monitor the dumping of pollutants at sea in specific area

- If a specific territorial sea is set as an area of interest and observation is carried out, it is possible to monitor the dumping of pollutants in the designated territorial sea even if some shorelines are covered by clouds depending on the climatic conditions.

◆ Real-time ocean monitoring is possible

- Even if the weather conditions change, the geometric correction distortion phenomenon can be minimized, so the occurrence of marine disasters such as algae and oil leakage accidents can be observed in real time.