METHOD FOR THE EQUITABLE CONSTRUCTION OF AN ACQUISITION PLAN FOR AREAS TO BE CARRIED OUT BY A SHARED OBSERVATION SYSTEM OVER A GIVEN PERIOD, SUCH AS A SATELLITE

Technological advantages

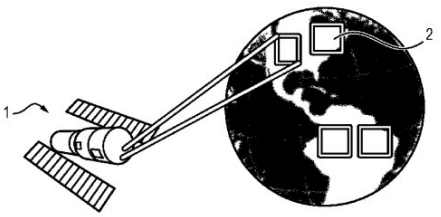
- Fair distribution of acquisition requests between multiple users.
- Dynamic plan construction based on real-time user demands.
- Efficient use of satellite's acquisition capacity, considering both time and spatial constraints.
- User-specific prioritization, adjusting acquisition priority based on scores and remaining usage rights.
- Equitable access to the system from the outset, avoiding dominance by a majority user.

Invention synthesis

This invention proposes a method to construct an equitable acquisition plan for areas to be observed by a shared satellite or similar system. Multiple users provide acquisition requests for areas that need to be imaged, each having predefined acquisition rights. The system builds the acquisition plan by inserting requests based on their utility coefficient, which is calculated in real-time and reflects both the importance of the request and the system's available capacity. The process aims to balance fairness among all users, ensuring no single user dominates the plan and that each user gets access according to their fair share. By continuously updating the priority of requests based on user rights and remaining capacity, the system ensures that the acquisition process is both efficient and fair. The method not only optimizes satellite usage but also adapts dynamically to user needs, making it an innovative solution for shared observation systems.

Potential applications

- Earth observation via satellites or similar systems.
- Resource allocation in multi-user satellite systems.
- Remote sensing for scientific research, environmental monitoring, or disaster management.
- Defense and intelligence for equitable distribution of observation time.
- Satellite imaging services for commercial use in agriculture, forestry, or urban planning.



Schematic of the method showing the observation system and the areas to be acquired

Commercial benefits

- Optimized satellite use, maximizing acquisition capacity.
- Increased fairness attracts a diverse range of customers to shared satellite services.
- Dynamic scheduling improves customer satisfaction by prioritizing high-value requests.
- Cost-efficient operation by reducing idle times and optimizing resource allocation.
- Improved access equity, reducing user complaints and ensuring long-term service contracts.

Patented invention - under license.

For more information :

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