

The study of environmental monitoring by science airship and high accuracy digital multi-spectral camera

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Abstract

The Airship PKNU is a roughly 12 m (32 ft) long blimp, filled with helium, whose two-gasoline power(3hp per engine) are independently radio controlled. The motors and propellers can be tilted and are attached to the gondola through an axle and supporting braces. Four stabilizing fins are mounted at the tail of the airship. To fill in the helium, a valve is placed at the bottom of the hull. The inaugural flight was on Jul. 31. 2002 at the Pusan, S.korea

Most environment monitoring system\problem use satellite image. But, Low resolution satellite image (multi-spectral) : 1km ~ 250 m ground resolutions is lows . So detail information acquisition is hard at the complex terrain. High resolution satellite image (black and white) 30m : The ground resolution is high. But it is high price, visit cycle and delivery time is long So. We want make high accuracy airship photogrammetry system.

This airship can catch picture Multi spectral Aerial photographing (visible, Near infrared and thermal infrared), and High resolution (over 6million pixel). It can take atmosphere datum (Temperature (wet bulb, dew point, general), Pressure (static, dynamic), Humidity, wind speed).

this airship is very Quickness that aircraft install time is lower than 30 minutes, it is compact and that conveyance is easy. High-capacity save image (628 cut per 1time (over 6million and 4band(R,G,B,NIR)) and this airship can save datum this High accuracy navigatin (position and rotate angle) by DGPS tech. and Gyro system. this airship will do monitor about red-tide, sea surface temperate, and CH-A, SS and etc.

Key words: airship, environmental monitoring, aerial photo