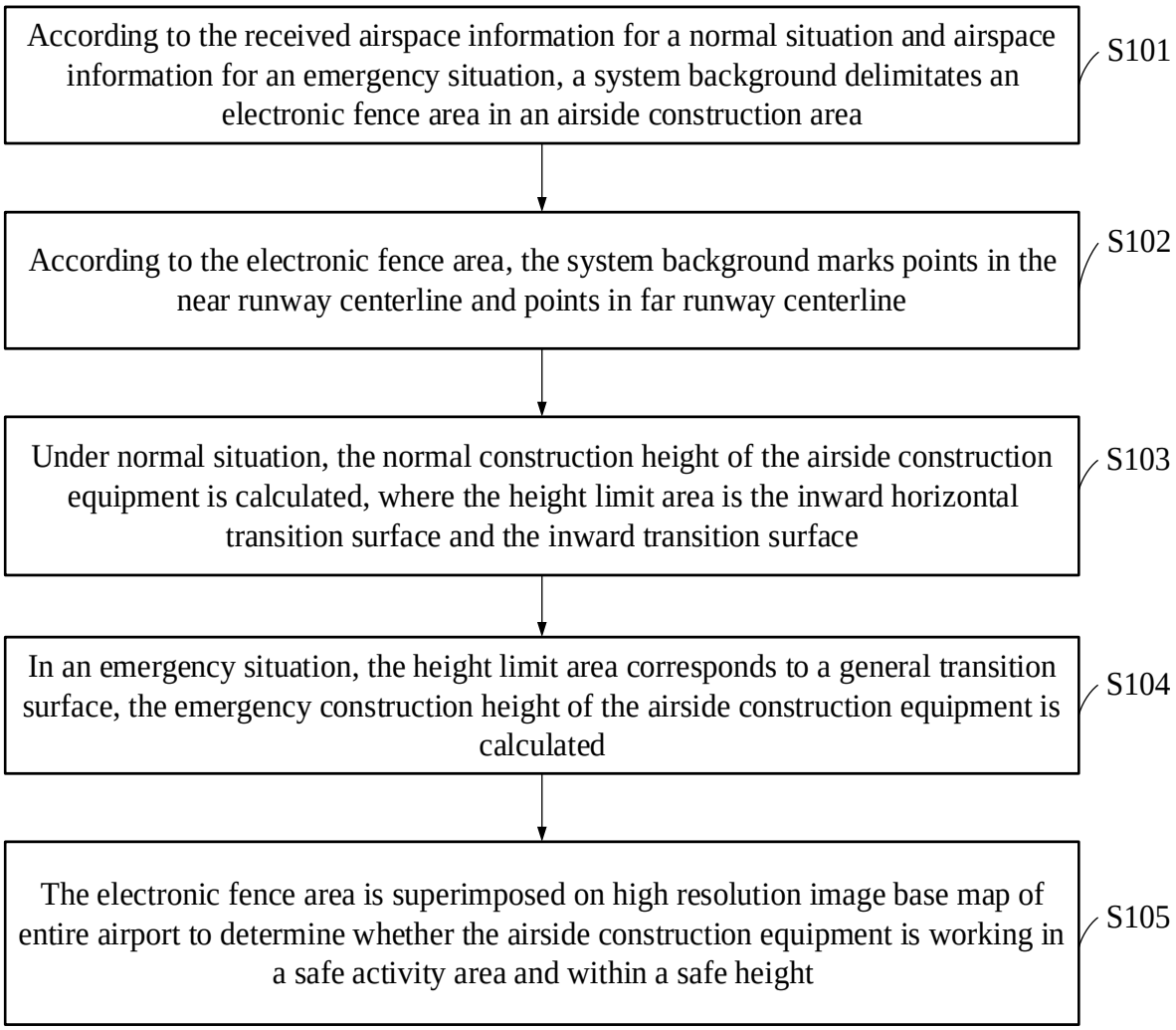

According to the received airspace information for a normal situation and airspace information for an emergency situation, a system background delimitates an electronic fence area in an airside construction area
S101
According to the electronic fence area, the system background marks points in the near runway centerline and points in far runway centerline
S102
Under normal situation, the normal construction height of the airside construction equipment is calculated, where the height limit area is the inward horizontal transition surface and the inward transition surface
S103
In an emergency situation, the height limit area corresponds to a general transition surface, the emergency construction height of the airside construction equipment is calculated
S104
The electronic fence area is superimposed on high resolution image base map of entire airport to determine whether the airside construction equipment is working in a safe activity area and within a safe height
S105

FIG. 1

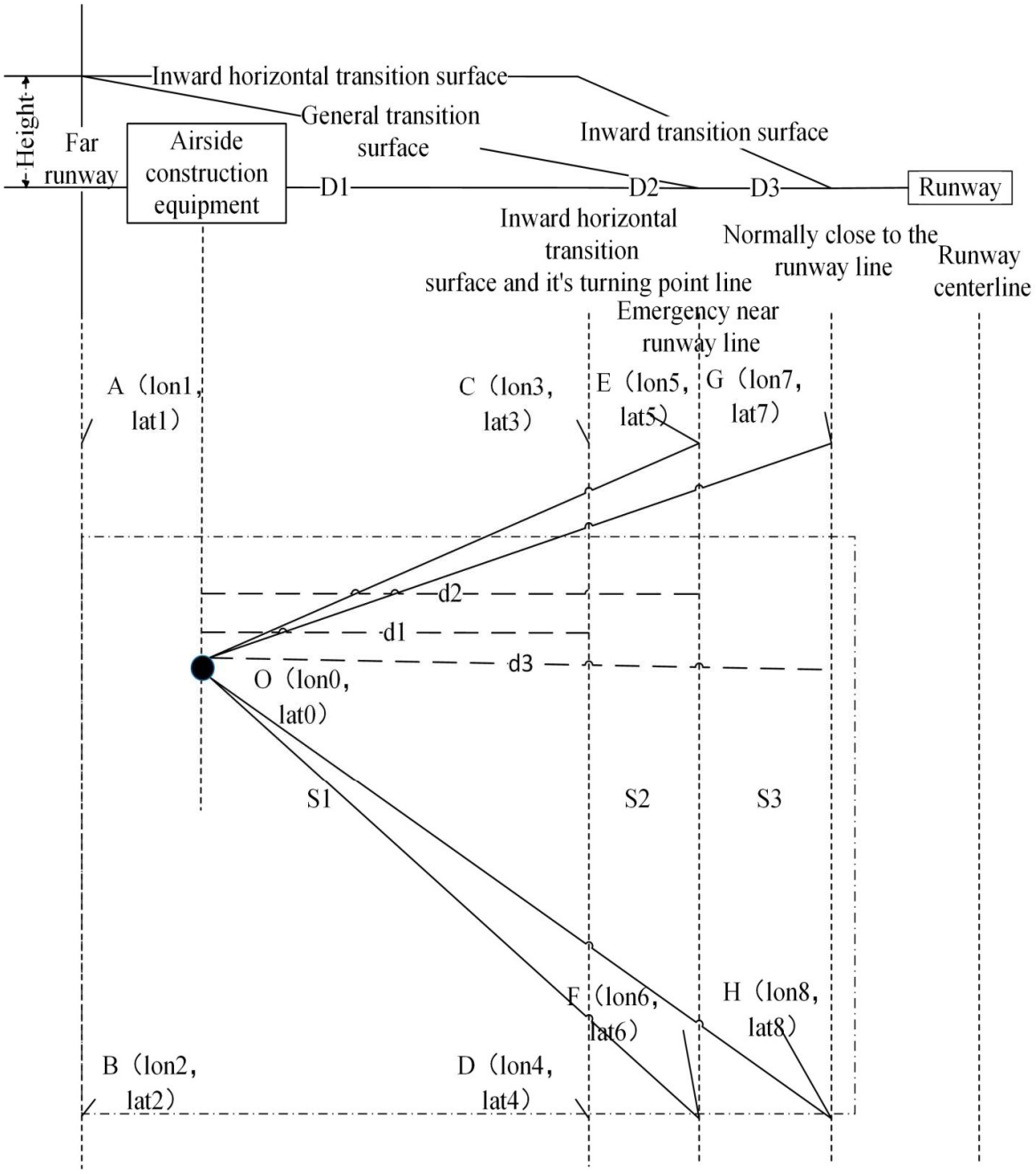

Inward horizontal transition surface
Height
General transition surface
Inward transition surface
Far runway
Airside construction equipment
D1
D2
D3
Runway
Inward horizontal transition surface and it's turning point line
Normally close to the runway line
Runway centerline
Emergency near runway line
A (lon1, lat1)
C (lon3, lat3)
E (lon5, lat5)
G (lon7, lat7)
d2
d1
d3
O (lon0, lat0)
S1
S2
S3
F (lon6, lat6)
H (lon8, lat8)
B (lon2, lat2)
D (lon4, lat4)

FIG. 2

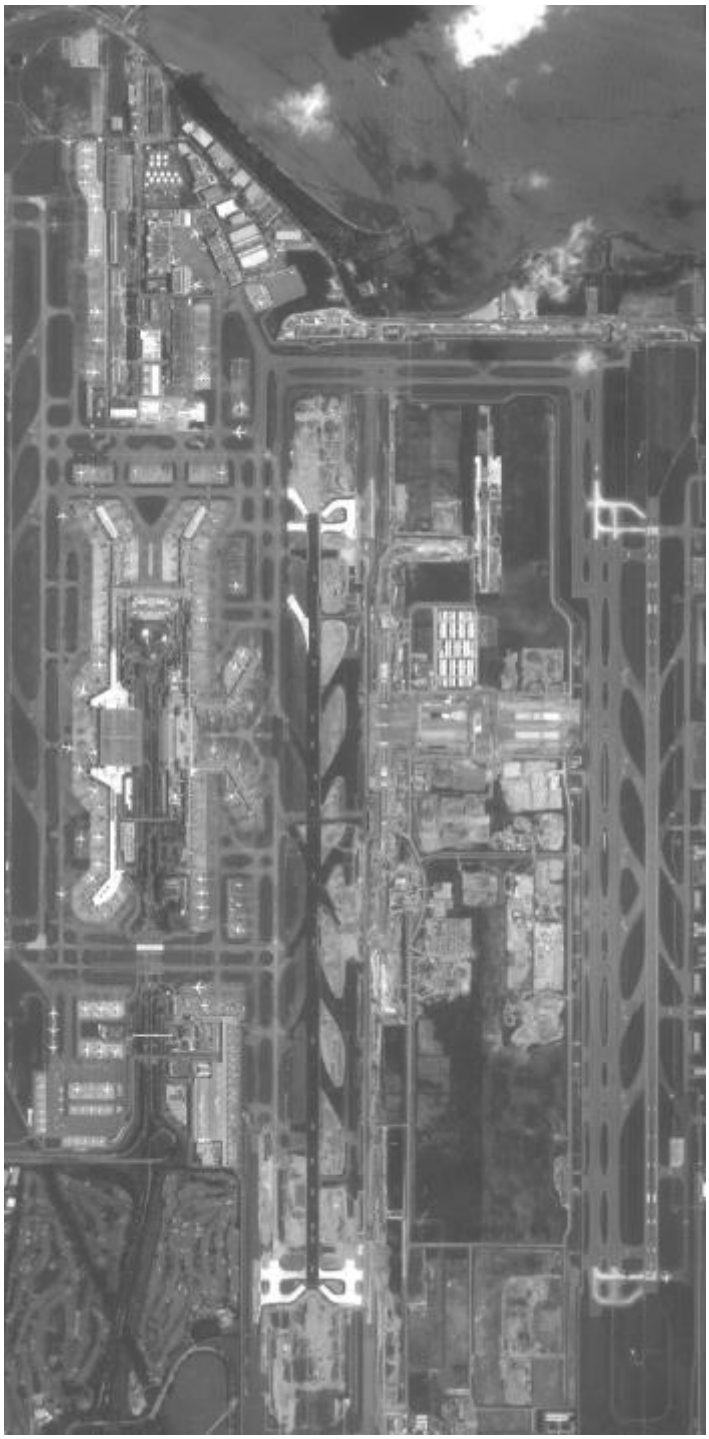


FIG. 3

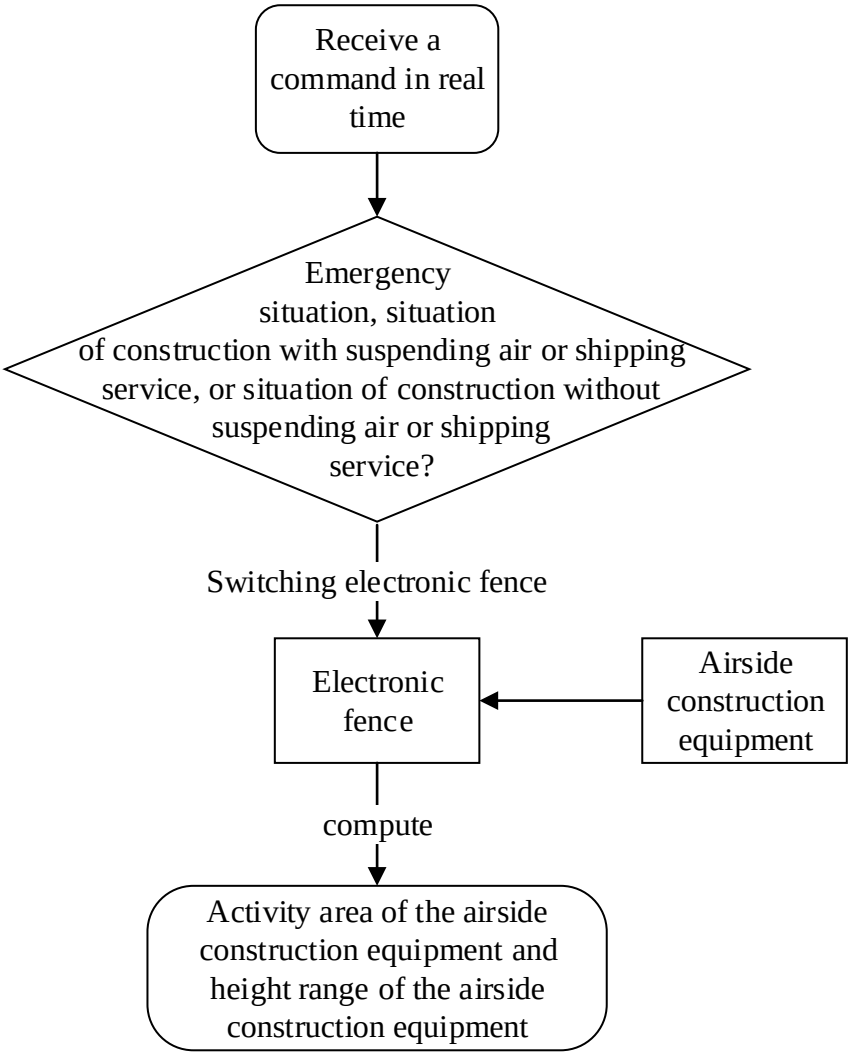

Receive a command in real time
Emergency situation, situation of construction with suspending air or shipping service, or situation of construction without suspending air or shipping service?
Switching electronic fence
Electronic fence
Airside construction equipment
compute
Activity area of the airside construction equipment and height range of the airside construction equipment

FIG. 4

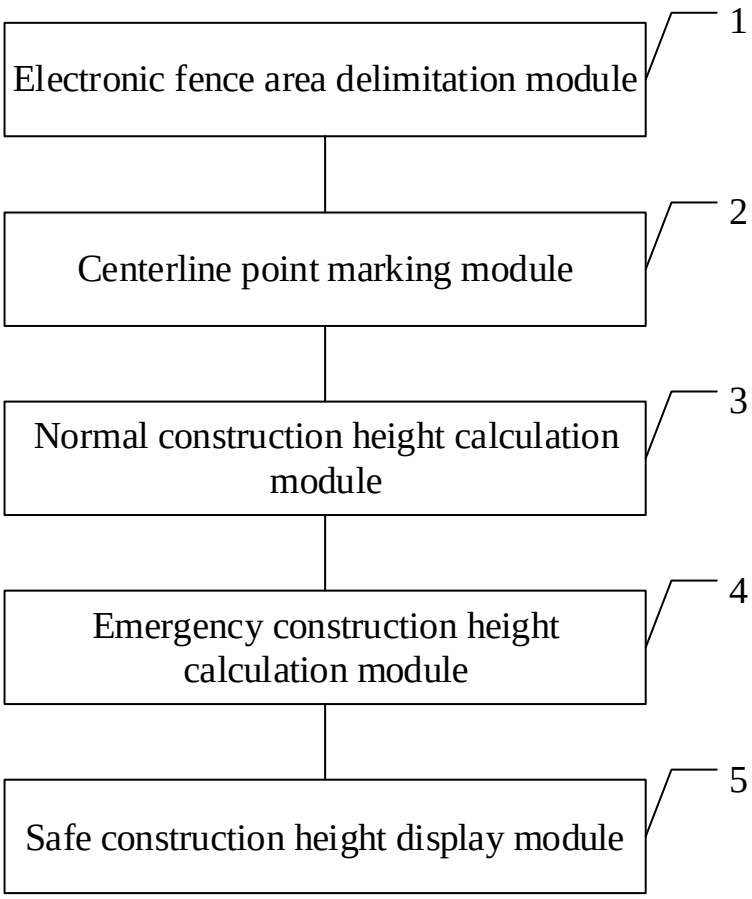

Electronic fence area delimitation module
1
Centerline point marking module
2
Normal construction height calculation module
3
Emergency construction height calculation module
4
Safe construction height display module
5

FIG. 5