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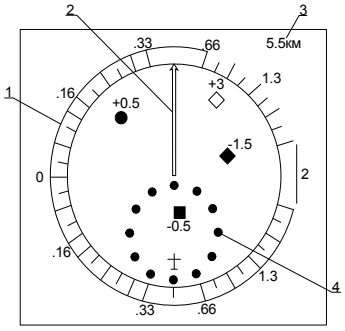
AIRBORNE COLLISION AVOIDANCE SYSTEM DATA REPRESENTATION ON THE NAVIGATION-LANDING SYSTEM DISPLAY

When the TCAS system detects aircrafts creating threat of the mid-air collision, i.e. aircrafts of the AIR MISS, RA or TA categories, corresponding information is received by an indicator of radiolocation-navigation complex RLNC [1] of aircrafts of LA. In such a case an indicator removes previously settled condition of information mapping and generates data only of the TCAS system, i.e. conditions of air situation in a particular flight altitude envelope.

Advisory messages can be corrective or preventive, permitted or prohibited.

Display of air situation conditions include standard symbolic, constituting of aircraft identifying code, two-mile range ring, symbols indicating aircrafts of different categories, symbols displaying ranges, omnibearing (when the tracing takes place on directional aerial), altitude (when the oncoming aircraft informs about its altitude).



One of the proposed variant of information mapping from the TCAS system on an indicator of RLNC is shown in picture, where:

1. RA arc (red/green).
2. Climbing speed indicator (white).
3. Range indicator of the air traffic mapping.
4. Range ring 3.7 km.

■ - oncoming aircraft of the RA category (red)
● - oncoming aircraft of the TA category(yellow)
◇ - oncoming aircraft of the “air miss” category (white)
◆ - nonthreatening oncoming aircraft.

The aircraft located beyond the display of the range is generated in the form of ½ on the edges of a picture.

References

1. Кондрашов В.И. Кондрашов Я.В. Пути повышения информационной емкости систем управления воздушным движением. Науково-технічний журнал «Інформатизація та нові технології», №2, Київ, 1995, с.8-10.