In order to understand the invention and to see how it can be carried out in practice, embodiments will be described, by way of non-limiting examples, with reference to the accompanying drawings, in which:

Fig. 1 illustrates a radar system tracking an airborne object over time, according to some embodiments of the presently disclosed subject matter;

Fig. 1a illustrates an example graphical representation of an RCS time series, according to some embodiments of the presently disclosed subject matter

Fig. 2 illustrates a block diagram of an airborne object tracking and identification system and its components, according to some embodiments of the presently disclosed subject matter;

Fig. 2a illustrates a block diagram of an example airborne object tracking target identification system using machine-learning-based classification of radar data, according to some embodiments of the presently disclosed subject matter

Fig. 3 illustrates an example database structure for mapping the radar beam direction in the aircraft body frame (given, for example: as azimuth and elevation angles) to radar cross section values that have been determined to be characteristic of specific aircraft for a given radar frequency and a given polarization, according to some embodiments of the presently disclosed subject matter;

Fig. 4 illustrates a generalized flow diagram of a computerized process for identifying an aircraft on the basis of radar plot information and radar cross section information, according to some embodiments of the presently disclosed subject matter;

Fig. 5 illustrates a generalized flow diagram of an example computerized process for determining a radar cross section value for a particular aircraft type, according to some embodiments of the presently disclosed subject matter; and

Fig. 6 illustrates a generalized flow diagram of a computerized process for calculating a degree of matching between a series of RCS measurements and an estimated RCS series, according to some embodiments of the presently disclosed subject matter;

Fig. 7 illustrates a flow diagram of an example process of machine-learning-based identification of an airborne object from radar data, according to some embodiments of the presently disclosed subject matter;

Fig. 8 illustrates a flow chart of an example method of creating a training data set to be used in training a machine learning model, according to some embodiments of the presently disclosed subject matter; and

Fig. 9 illustrates a flow diagram of an example process of identification of an airborne object from a series of target RCS measurements, according to some embodiments of the presently disclosed subject matter.

DETAILED DESCRIPTION

In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the invention. However, it will be understood by those skilled in the art that the presently disclosed subject matter may be practiced without these specific details. In other instances, well-known methods, procedures, components and circuits have not been described in detail so as not to obscure the presently disclosed subject matter.

Unless specifically stated otherwise, as apparent from the following discussions, it is appreciated that throughout the specification discussions utilizing terms such as "processing", "computing", "representing", "comparing", "generating", “assessing”, “matching”, “updating”, "calculating", "estimating", "correlating" or the like, refer to the action(s) and/or process(es) of a computer that manipulate and/or transform data into other data, said data represented as physical, such as electronic, quantities and/or said data representing the physical objects. The term “computer” should be expansively construed to cover any kind of hardware-based electronic device with data processing capabilities including, by way of non-limiting example, the "processing and memory circuitry", and "processor" disclosed in the present application.