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IEEE Standard for Radar Definitions

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IEEE
3 Park Avenue
New York, NY 10016-5997
USA

IEEE Std 686™-2017
(Revision of IEEE Std 686-2008)

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IEEE Aerospace and Electronic Systems Society

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Abstract: The promotion of clarity and consistency in the use of radar terminology is the purpose of the definitions provided in this guide. The consensus of a panel of radar experts are represented in the definitions herein.

Keywords: IEEE 686™, radar, terminology

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At the time this IEEE standard was completed, the Terminology Committee Working Group had the following membership:

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Joe BruderVice Chair,

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Dale Blair	Hugh Griffiths	Eric Mokole
Shannon Blunt	Mike Inggs	Simon Watts
James Day	Krzyztof Kulpa	David Zasada
	Heiner Kuschel	

The following members of the individual balloting committee voted on this standard. Ballote[illegible] may have voted for approval, disapproval, or abstention.

H. Stephen Berger	Eric W. Gray	Robert [illegible]
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Introduction

This introduction is not part of IEEE Std 686-2017, IEEE Standard for Radar Definitions.

Originally, radar definitions were included in IEEE Std 172™-1971 [B3].[1], [2]In 1974, the Radar Systems Panel of the IEEE Aerospace and Electronic Systems Society set out to create a separate standard devoted to radar definitions. The result was the first edition of this standard, IEEE Std 686™-1977. In order to avoid overlap and conflict with the radar definitions existing in IEEE Std 172-1971, the IEEE Standards Board allowed only new terms, not already in that standard, to be included in IEEE Std 686-1977.

The second edition, IEEE Std 686-1982, included terms formerly found in IEEE Std 172-1971, with the exception of a few terms that are common to both fields, and new and updated terms. IEEE Std 686-1982 updated, added, and/or deleted standard radar definitions. The third edition, IEEE Std 686™-1990, and the fourth edition, IEEE Std 686-1997, added and/or deleted standard radar definitions.

IEEE Std 686™-2008 adds new terms, revises others, and deletes a number of obsolete terms that no longer appear in radar literature or usage. As radar technology and literature evolve, new terms will appear; further updating at approximately five-year intervals is planned.

The work of preparing the drafts of this standard, integrating all comments, resolving differences, and coordinating this standard with other standards was accomplished by the Working Group for the Radar Systems Panel of the IEEE Aerospace and Electronic Systems Society. In particular, radar definitions common to ultra wideband radar were coordinated with the UWB Radar Committee for IEEE Std 1672™ [B6].

[1]

[2]The numbers in brackets correspond with those of the bibliography in Annex A.

Contents

IEEE Standard for Radar Definitions

1. Overview

1.1 Scope

This standard is devoted to providing radar definitions. The standard includes terms formerly found in IEEE Std 172™-1971 and 172–1983 [B3] and [B4], with the exception of a few terms that are common in both fields, and new and updated terms.[3] IEEE Std 172 was withdrawn in 1993. As radar technology and literature evolve, new terms will be added and obsolete terms deleted.[4]

1.2 Purpose

This standard is published for the purpose of promoting clarity and consistency in the use of radar terminology. The definitions represent the consensus of a panel of radar experts. The purpose of the revision is to add new terms, revise others, and delete a number of obsolete terms that no longer appear in radar literature or usage.

2. Definitions, acronyms, and abbreviations

For the purposes of this document, the following terms and definitions apply. The *IEEE Standards Dictionary Online* should be consulted for terms not defined in this clause. [5]

2.1 Definitions

NOTE—The abbreviations capitalized in this standard are in accordance with prevailing radar usage. Lowercase abbreviations are an acceptable alternative provided they are used in a consistent manner.[6]

adaptive radar: A radar system that adapts its processing and control to improve achievement of a desired function.

aided tracking: A tracking technique in which the manual correction of the tracking error corrects the rate of motion of the tracking mechanism.

airborne early warning (AEW) radar: Describing an early-warning or air-surveillance radar carried by an airborne or spaceborne vehicle. *See also:* **early-warning radar**.

[3]The numbers in brackets correspond to those of the bibliography in Annex A.
[4]*IEEE Standards Dictionary Online* is available at: http://dictionary.ieee.org.
[5]Notes in text, tables, and figures of a standard are given for information only and do not contain requirements needed to implement this standard.
[6]IEEE publications are available from the Institute of Electrical and Electronics Engineers (http://standards.ieee.org/).