|  |  |
| --- | --- |
| U.S. Radiocommunications Sector  Fact Sheet | |
| **Working Party:** ITU-R WP 5B | **Document No:** USWP5B27-11-FS |
| **Ref: WP-5B/355** Annex 15 | **Date:** August 09, 2021 |
| **Document Title:** WORKING DOCUMENT PRELIMINARY DRAFT REVISION OF RECOMMENDATION ITU-R M.1851-1  **Mathematical models for radiodetermination radar and aeronautical mobile systems antenna patterns for use in interference analyses** | |
| **Author(s)/Contributors(s):**  Mohammed Rahman  Federal Aviation Administration (FAA)  Raafat Nasser  ACES Inc for FAA | Phone: (202) 631-4853  Email: [Mohammed.Rahman@faa.gov](mailto:Mohammed.Rahman@faa.gov)  Phone: (571) 277-4030  Email: [Raafat.Nasser@aces-inc.com](mailto:Raafat.Nasser@aces-inc.com) |
| **Purpose/Objective:** Update the Cosecant squared pattern that is currently being used in the studies of AI 1.4 with FAA radar systems.  Also, add peak and average parabolic antenna sidelobe patterns equations. | |
| **Abstract:** This work is initiated because it was noticed in WP-5D AI 1.4 HIBS studies the cosecant squared pattern was not clearly defined in M.1851. So this needs to be fixed.  We will also add the peak and average patterns for a circular parabolic dish antenna with several Bessel function antenna tapers. This work will be similar form to the linear aperture cases that is included in M.1851.  These Parabolic antenna patterns are expected to be also useful for interference and compatibility studies for radar, UAS, AMS and other systems that use this type of antennas. | |
| **Fact Sheet Preparer:** Raafat Nasser, ACES Inc. for FAA | |