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| **Radiocommunication Assembly (RA-15) Geneva, 26-30 October 2015** |  |
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| **31 August 2015** |
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| Radiocommunication Study Group 3 | |
| radiowave propagation | |
| LIST OF RECOMMENDATIONS | |
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# ITU-R P-series of Recommendations

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| **NOC** =  Maintained | **MOD** =  Revised | **SUP** = Deleted | **ADD** = New text | **UNA** =  Undergoing approval |

| Rec. ITU-R | Recommendation title | Action by RA-15 | Comments |
| --- | --- | --- | --- |
| [**P.310-9**](http://www.itu.int/rec/R-REC-P.310/en) | Definitions of terms relating to propagation in non-ionized media | NOC |  |
| [**P.311-15**](http://www.itu.int/rec/R-REC-P.311/en) | Acquisition, presentation and analysis of data in studies of tropospheric propagation | NOC |  |
| [**P.341-5**](http://www.itu.int/rec/R-REC-P.341/en) | The concept of transmission loss for radio links | NOC |  |
| [**P.368-9**](http://www.itu.int/rec/R-REC-P.368/en) | Ground-wave propagation curves for frequencies between 10 kHz and 30 MHz | NOC |  |
| [**P.371-8**](http://www.itu.int/rec/R-REC-P.371/en) | Choice of indices for long-term ionospheric predictions | NOC |  |
| [**P.372-12**](http://www.itu.int/rec/R-REC-P.372/en) | Radio noise | NOC |  |
| [**P.373-10**](http://www.itu.int/rec/R-REC-P.373/en) | Definitions of maximum and minimum transmission frequencies | NOC |  |
| [**P.452-16**](http://www.itu.int/rec/R-REC-P.452/en) | Prediction procedure for the evaluation of interference between stations on the surface of the Earth at frequencies above about 0.1 GHz | NOC |  |
| [**P.453-11**](http://web/rec/recommendation.asp?type=folders&lang=e&parent=R-REC-P.453) | The radio refractive index: its formula and refractivity data | NOC |  |
| [**P.525-2**](http://www.itu.int/rec/R-REC-P.525/en) | Calculation of free-space attenuation | NOC |  |
| [**P.526-13**](http://www.itu.int/rec/R-REC-P.526/en) | Propagation by diffraction | NOC |  |
| [**P.527-3**](http://www.itu.int/rec/R-REC-P.527/en) | Electrical characteristics of the surface of the Earth | NOC |  |
| [**P.528-3**](http://www.itu.int/rec/R-REC-P.528/en) | Propagation curves for aeronautical mobile and radionavigation services using the VHF, UHF and SHF bands | NOC |  |
| [**P.530-16**](http://www.itu.int/rec/R-REC-P.530/en) | Propagation data and prediction methods required for the design of terrestrial line-of-sight systems | NOC |  |
| [**P.531-12**](http://www.itu.int/rec/R-REC-P.531/en) | Ionospheric propagation data and prediction methods required for the design of satellite services and systems | NOC |  |
| [**P.532-1**](http://www.itu.int/rec/R-REC-P.532/en) | Ionospheric effects and operational considerations associated with artificial modification of the ionosphere and the radio‑wave channel | NOC |  |
| [**P.533-13**](http://www.itu.int/rec/R-REC-P.533/en) | Method for the prediction of the performance of HF circuits | NOC |  |
| [**P.534-5**](http://www.itu.int/rec/R-REC-P.534/en) | Method for calculating sporadic-E field strength | NOC |  |
| [**P.581-2**](http://www.itu.int/rec/R-REC-P.581/en) | The concept of “worst month” | NOC |  |
| [**P.617-3**](http://www.itu.int/rec/R-REC-P.617/en) | Propagation prediction techniques and data required for the design of trans-horizon radio-relay systems | NOC |  |
| [**P.618-12**](http://www.itu.int/rec/R-REC-P.618/en) | Propagation data and prediction methods required for the design of Earth-space telecommunication systems | NOC |  |
| [**P.619-1**](http://www.itu.int/rec/R-REC-P.619/en) | Propagation data required for the evaluation of interference between stations in space and those on the surface of the Earth | NOC |  |
| [**P.620-6**](http://www.itu.int/rec/R-REC-P.620/en) | Propagation data required for the evaluation of coordination distances in the frequency range 100 MHz to 105 GHz | NOC |  |
| [**P.676-10**](http://www.itu.int/rec/R-REC-P.676/en) | Attenuation by atmospheric gases | NOC |  |
| [**P.678-3**](http://www.itu.int/rec/R-REC-P.678/en) | Characterization of the variability of propagation phenomena and estimation of the risk associated with propagation margin | NOC |  |
| [**P.679-4**](http://www.itu.int/rec/R-REC-P.679/en) | Propagation data required for the design of broadcasting-satellite systems | NOC |  |
| [**P.680-3**](http://www.itu.int/rec/R-REC-P.680/en) | Propagation data required for the design of Earth-space maritime mobile telecommunication systems | NOC |  |
| [**P.681-8**](http://www.itu.int/rec/R-REC-P.681/en) | Propagation data required for the design of Earth-space land mobile telecommunication systems | NOC |  |
| [**P.682-3**](http://www.itu.int/rec/R-REC-P.682/en) | Propagation data required for the design of Earth-space aeronautical mobile telecommunication systems | NOC |  |
| [**P.684-6**](http://www.itu.int/rec/R-REC-P.684/en) | Prediction of field strength at frequencies below about 150 kHz | NOC |  |
| [**P.832-4**](http://www.itu.int/rec/R-REC-P.832/en) | World Atlas of Ground Conductivities | NOC |  |
| [**P.833-8**](http://www.itu.int/rec/R-REC-P.833/en) | Attenuation in vegetation | NOC |  |
| [**P.834-6**](http://www.itu.int/rec/R-REC-P.834/en) | Effects of tropospheric refraction on radiowave propagation | MOD | See Doc. 3/1005 |
| [**P.835-5**](http://www.itu.int/rec/R-REC-P.835/en) | Reference standard atmospheres | NOC |  |
| [**P.836-5**](http://www.itu.int/rec/R-REC-P.836/en) | Water vapour: surface density and total columnar content | NOC |  |
| [**P.837-6**](http://www.itu.int/rec/R-REC-P.837/en) | Characteristics of precipitation for propagation modelling | NOC |  |
| [**P.838-3**](http://www.itu.int/rec/R-REC-P.838/en) | Specific attenuation model for rain for use in prediction methods | NOC |  |
| [**P.839-4**](http://www.itu.int/rec/R-REC-P.839/en) | Rain height model for prediction methods | NOC |  |
| [**P.840-6**](http://www.itu.int/rec/R-REC-P.840/en) | Attenuation due to clouds and fog | NOC |  |
| [**P.841-4**](http://www.itu.int/rec/R-REC-P.841/en) | Conversion of annual statistics to worst-month statistics | NOC |  |
| [**P.842-5**](http://www.itu.int/rec/R-REC-P.842/en) | Computation of reliability and compatibility of HF radio systems | NOC |  |
| [**P.843-1**](http://www.itu.int/rec/R-REC-P.843/en) | Communication by meteor-burst propagation | NOC |  |
| [**P.844-1**](http://www.itu.int/rec/R-REC-P.844/en) | Ionospheric factors affecting frequency sharing in the VHF and UHF bands (30 MHz-3 GHz) | NOC |  |
| [**P.845-3**](http://www.itu.int/rec/R-REC-P.845/en) | HF field-strength measurement | NOC |  |
| [**P.846-1**](http://www.itu.int/rec/R-REC-P.846/en) | Measurements of ionospheric and related characteristics | NOC |  |
| [**P.1057-4**](http://www.itu.int/rec/R-REC-P.1057/en) | Probability distributions relevant to radiowave propagation modelling | NOC |  |
| [**P.1058-2**](http://www.itu.int/rec/R-REC-P.1058/en) | Digital topographic databases for propagation studies | NOC |  |
| [**P.1060-0**](http://www.itu.int/rec/R-REC-P.1060/en) | Propagation factors affecting frequency sharing in HF terrestrial systems | NOC |  |
| [**P.1144-7**](http://www.itu.int/rec/R-REC-P.1144/en) | Guide to the application of the propagation methods of Radiocommunication Study Group 3 | NOC |  |
| [**P.1147-4**](http://www.itu.int/rec/R-REC-P.1147/en) | Prediction of sky-wave field strength at frequencies between about 150 and 1 700 kHz | NOC |  |
| [**P.1148-1**](http://www.itu.int/rec/R-REC-P.1148/en) | Standardized procedure for comparing predicted and observed HF sky-wave signal intensities and the presentation of such comparisons | NOC |  |
| [**P.1238-8**](http://www.itu.int/rec/R-REC-P.1238/en) | Propagation data and prediction methods for the planning of indoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz | NOC |  |
| [**P.1239-3**](http://www.itu.int/rec/R-REC-P.1239/en) | ITU-R reference ionospheric characteristics | NOC |  |
| [**P.1240-2**](http://www.itu.int/rec/R-REC-P.1240/en) | ITU-R methods of basic MUF, operational MUF and ray-path prediction | NOC |  |
| [**P.1321-5**](http://www.itu.int/rec/R-REC-P.1321/en) | Propagation factors affecting systems using digital modulation techniques at LF and MF | NOC |  |
| [**P.1406-2**](http://www.itu.int/rec/R-REC-P.1406/en) | Propagation effects relating to terrestrial land mobile and broadcasting services in the VHF and UHF bands | NOC |  |
| [**P.1407-5**](http://www.itu.int/rec/R-REC-P.1407/en) | Multipath propagation and parameterization of its characteristics | NOC |  |
| [**P.1409-1**](http://www.itu.int/rec/R-REC-P.1409/en) | Propagation data and prediction methods for systems using high altitude platform stations and other elevated stations in the stratosphere at frequencies greater than about 1 GHz | NOC |  |
| [**P.1410-5**](http://www.itu.int/rec/R-REC-P.1410/en) | Propagation data and prediction methods required for the design of terrestrial broadband radio access systems operating in a frequency range from 3 to 60 GHz | NOC |  |
| [**P.1411-8**](http://www.itu.int/rec/R-REC-P.1411/en) | Propagation data and prediction methods for the planning of short-range outdoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz | NOC |  |
| [**P.1412-0**](http://www.itu.int/rec/R-REC-P.1412/en) | Propagation data for the evaluation of coordination between earth stations working in the bidirectionally allocated frequency bands | NOC |  |
| [**P.1510-0**](http://www.itu.int/rec/R-REC-P.1510/en) | Annual mean surface temperature | NOC |  |
| [**P.1511-1**](http://www.itu.int/rec/R-REC-P.1511/en) | Topography for Earth-space propagation modelling | NOC |  |
| [**P.1546-5**](http://www.itu.int/rec/R-REC-P.1546/en) | Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3 000 MHz | NOC |  |
| [**P.1621-2**](http://www.itu.int/rec/R-REC-P.1621/en) | Propagation data required for the design of Earth-space systems operating between 20 THz and 375 THz | NOC |  |
| [**P.1622-0**](http://www.itu.int/rec/R-REC-P.1622/en) | Prediction methods required for the design of Earth-space systems operating between 20 THz and 375 THz | NOC |  |
| [**P.1623-1**](http://www.itu.int/rec/R-REC-P.1623/en) | Prediction method of fade dynamics on Earth-space paths | NOC |  |
| [**P.1791-0**](http://www.itu.int/rec/R-REC-P.1791/en) | Propagation prediction methods for assessment of the impact of ultra-wideband devices | NOC |  |
| [**P.1812-4**](http://www.itu.int/rec/R-REC-P.1812/en) | A path-specific propagation prediction method for point-to-area terrestrial services in the VHF and UHF bands | NOC |  |
| [**P.1814-0**](http://www.itu.int/rec/R-REC-P.1814/en) | Prediction methods required for the design of terrestrial free-space optical links | NOC |  |
| [**P.1815-1**](http://www.itu.int/rec/R-REC-P.1815/en) | Differential rain attenuation | NOC |  |
| [**P.1816-3**](http://www.itu.int/rec/R-REC-P.1816/en) | The prediction of the time and the spatial profile for broadband land mobile services using UHF and SHF bands | NOC |  |
| [**P.1817-1**](http://www.itu.int/rec/R-REC-P.1817/en) | Propagation data required for the design of terrestrial free-space optical links | NOC |  |
| [**P.1853-1**](http://www.itu.int/rec/R-REC-P.1853/en) | Tropospheric attenuation time series synthesis | NOC |  |
| [**P.2001-2**](http://www.itu.int/rec/R-REC-P.2001/en) | A general purpose wide-range terrestrial propagation model in the frequency range 30 MHz to 50 GHz | NOC |  |
| [**P.2040-1**](http://www.itu.int/rec/R-REC-P.2040/en) | Effects of building materials and structures on radiowave propagation above about 100 MHz | NOC |  |
| [**P.2041-0**](http://www.itu.int/rec/R-REC-P.2041/en) | Prediction of path attenuation on links between an airborne platform and space and between an airborne platform and the surface of the Earth | NOC |  |

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