SIXTH FRAMEWORK PROGRAMME
PRIORITY 2
Information Society Technologies IST

Inventory results

WP 3.1.3 Virtual Antenna Laboratory

ACE
Antenna Centre of Excellence
Network of excellence
Contract no.: 508009

Educational material report

Partner name	IETR
Partner ID	13
WP leader	Kourosh Mahdjoubi
compiler name	Renaud Loison
compiler e-mail	Renaud.Loison@insa-rennes.fr
title	Antenna arrays
content	This is a complete e-learning course containing: - an online text book in HTML format (8 chapters), - 6 problems with their associate solutions (HTML), - 2 real-life detailed examples (HTML), - 6 simulators (JAVA applets), - 3 quizzes (using WebCT tools), - a glossary (using WebCT tools).
description	This is a complete web course including equations, figures and pictures. The course is available under the WebCT e-learning environment. The navigation is achieved thanks to numerous hypertext links. The glossary entries are accessible from notes, problems and examples through hypertext links. Each chapter ends with a special HTML page linking related exercises, examples and simulators. PDF versions of all chapters, exercises and examples are downloadable.
filename	
level	Master
kind	Other
other kind	Online course under the WebCT e-learning environment.
language	French
web link	http://nte2.ens.insa-rennes.fr
willingness	Yes
comments	* The following login and password are needed to access to the course: Login: etutest Password: test * The 6 JAVA applets can be used independently from the course. A dedicated form has been posted for these simulators.
contact name	Renaud Loison
contact address	IETR / INSA 20 avenue des buttes de CoÃ«smes CS 14315 35043 Rennes Cedex FRANCE
contact e-mail	Renaud.Loison@insa-rennes.fr

Educational material report

Partner name	IETR
Partner ID	13
WP leader	Kourosh Mahdjoubi
compiler name	Renaud Loison
compiler e-mail	Renaud.Loison@insa-rennes.fr
title	Array factor applets
content	These 6 JAVA applets are interactive simulators. These educational tools aim at illustrating the fundamental properties of antenna arrays. Each applet is dedicaced to a type of array or a synthesis method: 1- uniform linear array 2- phased linear array 3- linear array with arbitrary excitations and element positions 4- planar array with arbitrary excitations and element positions 5- Chebyshev synthesis 6- Taylor synthesis
description	For the applets 1, 2, 3 and 4, the user can change the array parameters (number of sources, distance between sources, amplitude or phase law, ...) and directly observe their influence on the plotted array factor. The array factor can be viewed in 3 different cut planes (2D views) or in a single 3D view. The two other applets illustrate two synthesis methods. They compute the excitation law of a linear array as Ã function of a side lobe level goal which is defined by the user. The obtained array factor is also plotted (2D or 3D views).
filename	
level	Master
kind	Other
other kind	JAVA applets
language	French
web link	http://nte2.ens.insa-rennes.fr
willingness	Yes
comments	* The following login and password are needed to access to the course: Login: etutest Password: test * These applets are a part of an antenna array e-learning course for which a dedicated form has been posted.
contact name	Renaud Loison
contact address	IETR / INSA 20 avenue des buttes de CoÃ«smes CS 14315 35043 Rennes Cedex FRANCE
contact e-mail	Renaud.Loison@insa-rennes.fr

Educational material report

Partner name	ICCS/NTUA
Partner ID	18
WP leader	Dimitra Kaklamani
compiler name	
compiler e-mail	
title	Computational Techniques in Information Transmission Systems
content	
description	
filename	
level	Und
kind	Notes
other kind	
language	Greek
web link	
willingness	Yes
comments	
contact name	
contact address	
contact e-mail	

Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Lessons of Electromagnetic Fields II (in Italian)
content	Planar guiding structures, equivalent transmission lines for two-dimensional waveguides. Dispersion relation, discrete spectrum of the guided modes, graphical resolution. Radiation modes, continuous spectrum. Beams with finite cross section: use of the angular spectrum, the Goos-HÃ¤nchen shift. The transverse-resonance method, elementary applications. Dielectric-slab waveguides, geometrical-optics approach. The parallel-plate waveguide partially filled with dielectric. The non-radiative dielectric (NRD) waveguide. The effective-dielectric-constant method for three-dimensional waveguides. The slot line. The spectral-domain method for the study of planar stratified structures. Elementary application of the method to the slot line. Recalls on dyadic algebra and analysis in electromagnetic problems. Spectral dyadic Greenâ€™s functions. Integral equations: numerical solution with the moment method. Application of the method to the microstrip. Spectral decomposition of the fields radiated from an aperture. Asymptotic evaluation of integrals: integration by parts, the stationary-phase method. Computation of the far field. Scattering problems. Cylindrical structures with circular cross-section, canonical problems. Recalls on Bessel and Hankel functions. Scattering from arrays of circular cylinders, simulation of arbitrary sections. Scattering from inductive iris in rectangular waveguide, mode-matching method. Integral representations of the electromagnetic field, equivalence theorem. Dyadic Greenâ€™s function for the wave equation. Marcuvitz-Schwinger formalism for Maxwellâ€™s equations. Alternative modal functions for the decomposition of the field: LSE and LSM modes. Computation of the Greenâ€™s functions for a transmission line. Planar dielectric waveguides. Leaky waves along stratified media, transition regions. Analysis of periodic structures: Floquetâ€™s theorem, expansions in terms of spatial harmonics, Brillouin diagrams, analysis in the complex plane. Leaky-wave antennas. Longitudinal tapering procedures. Radiation efficiency. Spectral decomposition of the radiated fields. Radiation admittance. Asymptotic evaluation of integrals: the steepest-descent method. The Maxwellâ€™s stress tensor. Momentum and angular momentum of the field: integral relations for the forces and the torques. Scattering problems. The point-matching method. Scattering from a linear array of metallic strips. Integral representations of the electromagnetic field. Study of the singular behaviour of the Greenâ€™s function. Integral equations for the scattering from three-dimensional objects of arbitrary shape: EFIE and MFIE formulations, spurious solutions, combined equations. Two-dimensional problems: scattering, propagation in guides of arbitrary cross-section. Sturm-Liouville problems in electromagnetics. The Greenâ€™s function method. Greenâ€™s functions for the Helmholtz equation: two-dimensional problems. The spectral representation method. Expansions in eigenfuntion series, discrete spectrum and continuous spectrum.
description	The text is aimed to present an overview of some advanced topics in Electromagnetics, of considerable importance for the applications. Key instruments extensively used for their physical intuition and representative power are the modal expansion with the relevant equivalent distributed circuits, and the plane-wave spectra. The concepts of Greenâ€™s

Educational material report

	function and integral representation are also studied in depth. Scattering problems are presented. The text is aimed moreover to provide the student with a series of conceptual instruments and mathematical techniques of great scientific generality and utility for the rigorous analysis of electromagnetic structures of remarkable applicative impact. In particular, the concept of representation is studied, for its synthesis effectiveness.
filename	
level	PhD
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Fabrizio Frezza
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Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Introduction to Techniques of Asymptotic Evaluation of Integrals
content	Asymptotic expansion and Watson's Lemma Integration by parts Laplace's method Asymptotic evaluation of the Gamma function Method of stationary phase in one dimension Method of stationary phase in two dimensions
description	In these notes, a brief introduction to the asymptotic evaluation of integrals is presented. In particular, after introducing the concept of asymptotic expansion, some classical techniques and examples for the determination of the asymptotic behaviour of functions defined through integral representations are illustrated.
filename	
level	Master
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Giampiero Lovat
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contact e-mail	lovat@die.uniroma1.it

Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Planar Periodic Structures: analysis through the unit-cell method
content	Introduction. Method of moments, both in the spectral domain and in the spatial domain, applied to printed periodic structure: properties of full-domain and sub-domain basis functions. Integral equation in the spectral domain and mixed potential integral equations in a unit-cell environment. Acceleration techniques for the calculation of the MoM matrix elements, the sum of inverse Fourier transforms and periodic Greenâ€™s functions.
description	In these notes, the analysis and design of printed leaky-wave phased arrays, EBG structures and periodic leaky-wave antennas are presented. Full-wave numerical approaches based on method of moments, both in the spectral domain and in the spatial domain, are applied to printed periodic structure: the periodic environment and the relevant coupling effects are modeled by considering the single radiator as building block (unit cell) of an infinite periodic configuration. Appropriate choice of the spectral integration paths is performed in order to consider leakage effects. The described approaches allows us to characterize in an efficient and accurate fashion the dispertion properties and the radiation performance of various kinds of printed LW arrays.
filename	
level	Master
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Paolo Baccarelli
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contact e-mail	baccarelli@die.uniroma1.it

Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Integral Representations of the Electromagnetic Field and Boundary Integral Equations
content	Introduction. Boundary Integral Representations of electromagnetic fields in homogeneous regions: derivation, analytical properties, alternative forms. Boundary Integral Equations: field and source formulations for conducting and dielectric bodies, uniqueness and spurious solutions.
description	These notes are aimed at providing a basic knowledge of boundary integral equations (BIE) used in scattering and antenna problems on the basis of boundary integral representations of electromagnetic fields in homogeneous regions. Various classes of BIE are discussed, including EFIE, MFIE, CFIE, PMCHW and Muller formulations, for both perfectly conducting and dielectric bodies.
filename	
level	Master
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Paolo Burghignoli
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Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Numerical Methods in Electromagnetics
content	Introduction to the use of numerical methods in Electromagnetics. The Richardson approach to the limit. The finite-difference method. The finite-difference time-domain method. The finite-element method.
description	
filename	
level	Master
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Fabrizio Frezza
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Educational material report

Partner name	SAPIENZA
Partner ID	19
WP leader	Paolo Lampariello
compiler name	Fabrizio Frezza
compiler e-mail	fabrizio.frezza@uniroma1.it
title	Complementary Lessons of Electromagnetic Fields II
content	Method of moments. Rotating waves. Scattering from a cylinder grating. Leakage phenomena for planar structures. Excitation of leaky modes in a finite-length guiding structure: numerical and analytical methods. An introduction to Fredholm integral equations.
description	These are topics treated in the past during the course of Electromagnetic Fields II, plus additional more advanced material.
filename	
level	PhD
kind	Notes
other kind	
language	Italian
web link	www.die.uniroma1.it/personale/frezza
willingness	Yes
comments	
contact name	Fabrizio Frezza
contact address	Fabrizio Frezza Dipartimento di Ingegneria Elettronica Via Eudossiana 18 00184 Roma Italy
contact e-mail	fabrizio.frezza@uniroma1.it

Educational material report

Partner name	UPC
Partner ID	26
WP leader	Lluis Jofre
compiler name	Hugo Espinosa
compiler e-mail	hugo@tsc.upc.es
title	Design of a WI-FI Network
content	1. Introduction to the design of a WI-FI network 2. WLAN and Standards 3. Network typologies 4. Spectrum and WI-FI norms 5. Elements of a WI-FI network 6. Antennas 7. Indoor propagation
description	This multimedia material shows to the students how the WI-FI standard (802.11x) works in a Wireless Local Area Network (WLAN), considering their typologies, the differences between the wireless standards and the elements of a WI-FI network. The object of the presentation is the design of a WI-FI network in a specific place, evaluating the power density and the transmission velocity on the cover zone. The material makes an important emphasis to the analysis of the indoor propagation and of the WI-FI antenna characterisitcs, considering the radiation pattern, gain and polarization of every model.
filename	WI-FI Network.jpg
level	Und
kind	Slides
other kind	
language	Spanish
web link	No
willingness	Yes
comments	Material pending of being translated to english.
contact name	LluÃ-s Jofre
contact address	Campus Nord UPC, Edifici D-3 Jordi Girona 1-3 08034 Barcelona Spain
contact e-mail	jofre@tsc.upc.es

Educational material report

Partner name	UPV
Partner ID	28
WP leader	Miguel Ferrando
compiler name	Miguel Ferrando
compiler e-mail	mferrand@dcom.upv.es
title	Antenna Course
content	This is a complete web course including equations, figures and pictures. The course is structured in 10 chapters. Each chapter includes examples (80 in total) 10 quizes and a lot of useful links. The course includes notes, slides and videos. PDF versions of all chapters, problems, exercises, examples are dowloable.
description	Introduction. Antennas. Antenna Parameters. Radiation principles and equations Hertz dipole and small loops Linear wire antennas Antenna impedance and antenna coupling Antenna arrays. Aperture antennas Horn antennas Slot and microstrip antennas Reflectors and lenses.
filename	
level	Master
kind	Notes
other kind	
language	Spanish
web link	http://www.upv.es/antenas
willingness	Yes
comments	
contact name	Miguel Ferrando
contact address	Departamento de Comunicaciones ETSI TelecomunicaciÃ³n Universidad PolitÃ©cnica Camino de Vera s/n Valencia- Spain
contact e-mail	mferrand@dcom.upv.es

Educational material report

Partner name	UPV
Partner ID	28
WP leader	Miguel Ferrando
compiler name	Miguel Ferrando
compiler e-mail	mferrand@dcom.upv.es
title	Design of a WI-FI Network
content	1. Introduction to the desing of a WI-FI network 2. WLAN and Standarts 3. Network typologies 4. Spectrum and WI-FI norms 5. Elements of a WI-FI network 6. Antennas 7. Indoor propagation
description	This multimedia material shows to the students how the WI-FI standart (802.11x) works in a Wireless Local Area Network (WLAN) considering their typologies, the diferences between the wireless standarts and the elements of a WI-FI network. The object of the course is the design of a WI-FI network in a specific place, evaluating the power density and the the transmission velocity on the cover zone. The material makes an important emphasis to the analysis of the indoor propagation and of the WI-FI antenna characteristics, considering the radiation pattern, gain and polarization of every model.
filename	
level	Und
kind	Other
other kind	Streaming video (slides, teacher and audio)
language	spanish, in process to translation to english
web link	NO
willingness	Yes
comments	This material has been developed in cooperatioN between UPC and UPV
contact name	Miguel Ferrando
contact address	Departamento de Comunicaciones ETSI TelecomunicaciÃ³n Camino de Vera s/n Universidad PolitÃ©cnica Valencia-Spain
contact e-mail	mferrand@dcom.upv.es

Educational material report

Partner name	UPV
Partner ID	28
WP leader	Miguel Ferrando
compiler name	Miguel Ferrando
compiler e-mail	mferrand@dcom.upv.es
title	Polarization videos
content	These 9 avi videos shows the electric field for linear, circular and eliptical polarizations, as a combination of individual vector components. The videos are part of the Chapter 1 of the antenna course given at UPV.
description	
filename	
level	Und
kind	Movie
other kind	
language	english, spanish
web link	http://www.upv.es/antenas/Tema_1/consideraciones_generales.htm
willingness	Yes
comments	
contact name	Miguel Ferrando
contact address	Departamento de Comunicaciones ETSI TelecomunicaciÃ³n Universidad PolitÃ©cnica Camino de Vera s/n Valencia- Spain
contact e-mail	mferrand@dcom.upv.es

Educational material report

Partner name	UPV
Partner ID	28
WP leader	Miguel Ferrando
compiler name	Miguel Ferrando
compiler e-mail	mferrand@dcom.upv.es
title	Wave propagation videos
content	This is a complete set of 12 videos explaining wave propagation concepts, in planar, cylindrical and spherical waves, discontinuities between diferent materials, and fields radiated from a Hertz dipole.
description	
filename	
level	Und
kind	Movie
other kind	
language	english, spanish
web link	http://www.upv.es/antenas/Tema_2/fundamentos_de_radiacion.htm
willingness	Yes
comments	
contact name	Miguel Ferrando
contact address	Departamento de Comunicaciones ETSI TelecomunicaciÃ³n Universidad PolitÃ©cnica Camino de Vera s/n Valencia- Spain
contact e-mail	mferrand@dcom.upv.es

Educational material report

Partner name	UPV
Partner ID	28
WP leader	Miguel Ferrando
compiler name	Miguel Ferrando
compiler e-mail	mferrand@dcom.upv.es
title	Array videos
content	These 10 videos explains concepts related with array theory. The videos shown the efect of change of the array parameters (spacing, phase, current distribution) in the 3D array pattern.
description	
filename	
level	Master
kind	Movie
other kind	
language	spanish
web link	http://www.upv.es/antenas/Tema_6/agrupaciones_de_antenas.htm
willingness	Yes
comments	
contact name	Miguel Ferrando
contact address	Departamento de Comunicaciones ETSI TelecomunicaciÃ³n Universidad PolitÃ©cnica Camino de Vera s/n Valencia- Spain
contact e-mail	mferrand@dcom.upv.es

Educational material report

Partner name	CHALMERS
Partner ID	29
WP leader	Per-Simon Kildal
compiler name	
compiler e-mail	
title	Foundations of Antennas, lecture slides
content	This contains the lecture slides for use together with the textbook "Foundations of Antennas - A Unified Approach" by Professor Kildal. The book is intended for use in a basic course on antenna theory and design.
description	
filename	
level	Und
kind	Slides
other kind	
language	The slides are available in pdf format on the web page. The Powerpoint ve
web link	http://www.elmagn.chalmers.se/elmagn/antenna/courses/u-course-m-w-a.
willingness	Yes
comments	Kildal's textbook "Foundations of Antennas - A Unified Approach" is available at www.amazon.com. Can also be ordered at http://www.studentlitteratur.se/antennas Hardback version: www.studentlitteratur.se/7242 Paperback version: www.studentlitteratur.se/7251
contact name	Jian Yang
contact address	Antenna Group, Department of Electromagnetics Chalmers University of Technology S-41296 Gothenburg, SWEDEN
contact e-mail	jian.yang@elmagn.chalmers.se

Educational material report

Partner name	CHALMERS
Partner ID	29
WP leader	Per-Simon Kildal
compiler name	
compiler e-mail	
title	Antenna Design Mathcad Handbook
content	
description	This is an electronic Mathcad handbook on Antenna Design containing the Mathcad programs used to generate all the graphs in the textbook "Foundations of Antennas - A Unified Approach". The lecture slides are also available on VAlab. The handbook can be used without buying extra software. The programs are very easy to understand, because all equations are written in their mathematical form without being transferred to text commands like in Matlab or FORTRAN.
filename	
level	Und
kind	Other
other kind	Electronic Mathcad handbook
language	Mathcad
web link	will be made available later
willingness	Yes
comments	Kildal's textbook "Foundations of Antennas - A Unified Approach" is available at www.amazon.com. Can also be ordered at http://www.studentlitteratur.se/antennas Hardback version: www.studentlitteratur.se/7242 Paperback version: www.studentlitteratur.se/7251
contact name	Jian Yang
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Educational material report

Partner name	CHALMERS
Partner ID	29
WP leader	Per-Simon Kildal
compiler name	
compiler e-mail	
title	PCB-MoM
content	
description	PCB-MoM is a method of moment program that can be used for analyzing planar conducting structures (such as e.g. printed circuit boards) in free space or on a multilayer grounded dielectric substrate. The program computes the current distribution, in the frequency domain, on the conducting patches due to either exciting voltage sources or an exciting incident plane wave. Also the near fields and far fields can be computed. Impedance elements that serve as models for discrete elements (R, L and C) can be placed on the structure at arbitrary positions. The structure is easily defined by drawing it on the screen with the mouse. Several different ways of visualizing computed quantities can be used in the program; 3D plot of the current distribution, vector plot of current distribution and polar plot of radiation patterns. The program has a help file.
filename	
level	Und
kind	Other
other kind	Computer program
language	English
web link	http://www.sp.se/Electronics/RnD/software/eng/default.htm
willingness	Yes
comments	The PCB-MoM program can be used on Windows 95 and later
contact name	Jan Carlsson
contact address	SP Swedish National Testing and Research Institute SE-501 15 BorÃ¥s Sweden
contact e-mail	jan.carlsson@sp.se

Educational material report

Partner name	CHALMERS
Partner ID	29
WP leader	Per-Simon Kildal
compiler name	
compiler e-mail	
title	Wire-MoM
content	
description	Wire-MoM is a method of moment program for the analysis of wire structures. The wire structure can be placed in free space or over an infinitely large perfectly conducting electric or magnetic conducting ground plane. Wires can also be connected to the ground plane. The program computes the current on wires in the frequency domain due to either voltage or current sources on the wires or due to an incident plane wave. Also the near field, far field and S-parameters can be computed. Impedance elements that serve as models for discrete components (R, L and C) can be placed at arbitrary positions along the wires. Several tools are available for creating and modifying complex wire structures, e.g. tools for creating spheres, boxes, cylinders etc. Computed results can be visualized directly in the program, radiation pattern can be plotted as a color coded 3D-plot. The program is based on the EFIE (Electric Field Integral Equation) formulated in the frequency domain.
filename	
level	Und
kind	Other
other kind	Computer program
language	English
web link	http://www.sp.se/Electronics/RnD/software/eng/default.htm
willingness	Yes
comments	The Wire-MoM program can be used on Windows 98 and later. The current version of the program doesnâ€™t have a help file and no additional documentation is available yet. However, when the program is installed two example files are included. When an example file is opened (use File â€“ Open projectâ€¦ in the main menu) some helpful comments can be found on the Notes-page (use the F6 button). Also the accompanying laboratory experiment document written by Ilja Belov at University of JÃ¶nkÃ¶ping can be of help in getting started with the program.
contact name	Jan Carlsson
contact address	SP Swedish National Testing and Research Institute SE-501 15 BorÃ¥s Sweden
contact e-mail	jan.carlsson@sp.se

Canonical solution report

Partner name	UPC
Partner ID	26
WP leader	Lluis Jofre
Compiler name	Hugo Espinosa
Compiler e-mail	hugo@tsc.upc.es
title	X-band horn
contents	- X-band horn measured in cm. - Radiation pattern in 3D - E and H plane radiation pattern - Surface induced current - Aperture fields - Table with the computation time and number of unknowns of the triangle mesh
description	One of the most widely used microwave antenna is the horn. In addition to its utility as a feed for reflectors and lenses, it is a widely used element and serves as a universal standard for calibration and gain measurements of other high-gain antennas. This canonical problem is based on the analysis of an X-band horn with the following technical characteristics: Brand: Systron Donner Microwave division PN: DBG-520-20 SN: 20723 The solutions are compared between those obtained from aperture theory, MLFMA (Multilevel Fast Multipole Algorithm) and measured values.
filename	X-band horn.jpg
language	English
kind	Plots
other kind	
input data	- Horn measures - GiD meshes
output data	- Radiation pattern in 3D - E and H plane radiation pattern - Surface induced current - Aperture fields
limit	- Perfectly conducting surfaces (PEC)
software language	Other
other software	Files of results and graphics
type code in	Other
other type code in	N/A measured and computed results

Canonical solution report

additional software in	No
type code out	Other
other type code out	N/A measured and computed results
additional software out	No
web link	No
willingness	Yes
comments	
contact name	Juan Manuel Rius
contact address	Campus Nord UPC, Edifici D-3 Jordi Girona 1-3 08034 Barcelona Spain
contact e-mail	rius@tsc.upc.es

Canonical solution report

Partner name	UPC
Partner ID	26
WP leader	Lluis Jofre
Compiler name	Hugo Espinosa
Compiler e-mail	hugo@tsc.upc.es
title	[S] parameters of a two-monopoles antenna system as a function of distance and frequency
contents	ASCII files containing the scattering parameters for a two-monopole antenna system and this for frequency range of 3 GHz to 6 GHz and for different separation distances between the two antennas.
description	A ground plane of 800mm x 800 mm is used to mount two quarter-wavelength monopoles with a resonating frequency f0=4.86 GHz and radius a=0.01Î»0. At equally separated distances holes were made in the ground plane for mounting both antennas at different distances d separated from each other, ranging from 0.27Î»0 up to 2.16Î»0, ï„d=0.135Î»0. The scattering parameters of the antenna system are measured with the HP-8753D network analyzer for a frequency range 3 GHz up to 6 GHz, considering 401 frequency-points. The generated files are numbered from DATA1.D1 up to DATA15.D1, being DATA1.D1 the file containing the scattering parameters for a distance of 0.27Î»0 between the two monopoles, up to DATA15.D1 containing the scattering parameters for a separation of 2.16Î»0. A picture of the ground plane and the mounted quarter-wavelength monopoles is shown in the attached figure.
filename	Two-monopoles antenna system.JPG
language	English
kind	Other
other kind	Measurement files
input data	
output data	Output from the network analyzer: ASCII-files containing the scattering parameters over a frequency range from 3 GHz to 6 GHz for a specific distance between the monopoles.
limit	
software language	Other
other software	Measurement files
type code in	Other
other type code in	Measurement files
additional software in	
type code out	Other
other type code out	Measurement files

Canonical solution report

additional software out	
web link	No
willingness	Yes
comments	
contact name	Stan Dossche
contact address	Campus Nord UPC, Edifici D-4 Jordi Girona 1-3 08034 Barcelona Spain
contact e-mail	sdossche@tsc.upc.es

Canonical solution report

Partner name	CHALMERS
Partner ID	29
WP leader	Per-Simon Kildal
Compiler name	
Compiler e-mail	
title	G1DMULT - Green's functions of multilayer structures (planar, cylindrical or spherical)
contents	
description	G1DMULT is an algorithm providing Green's functions in the spectral domain, of multilayer planar, cylindrical and spherical structures. There can be any number of layers. Special surfaces such as PEC, PMC and PEC/PMC strip surfaces (soft and hard surfaces) are implemented, as well as homogenized socalled asymptotic strip and corrugation boundary conditions.
filename	
language	FORTRAN
kind	Program
other kind	
input data	Geometry of the multilayer structure. Locations of spectral domain sources, and observation points.
output data	Spectral domain E- and H-fields at any location inside or outside multilayer structure.
limit	
software language	Fortran
other software	
type code in	ExecutableCode
other type code in	
additional software in	
type code out	ExecutableCode
other type code out	
additional software out	
web link	
willingness	Yes
comments	Both source codes and executable codes are available from the authors under certain conditions.

Canonical solution report

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Remote execution report

Partner name	UPC
Partner ID	26
WP leader	Lluis Jofre
Compiler name	Hugo Espinosa
Compiler e-mail	hugo@tsc.upc.es
Title	GiD - Fractal module
Keyword	Meshing pre-fractal antennas, IFS (Iterative Funtion System), Networked MCRM.
method	The main technical aspect of the new tools added to GiD for the generation and meshing of fractal geometries is the recursive definition of the fractal geometry. This definition is based in the use of a geometrical initiator and a geometrical generator. The generation of the fractal geometry is based on a recursive process in which each segment of the initiator is substituted by the generator. Both the Initiator and the Generator can be selected from an existing list or manually defined by the user.
description	GiD has been provided of new software facilities for the automatic generation and meshing of fractal geometries. In addition, special adaptive mesh facilities have been added to the software in order to allow an enhancing of the quality of the numerical results in certain areas of the analysis domain.
filename	GiD - Fractal module.pdf
manual name	
limit	- Flat pre-fractal structures generated by an IFS (Iterative Funtion System) or a Networked MCRM. - Automatically meshing by GiD.
language	English
software language	Other
other software	TCL
type code in	Other
other type code in	Plug-in for the GiD software
additional software	No
willingness	Yes
contact name	Juan Manuel Rius
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Remote execution report

Partner name	UPC
Partner ID	26
WP leader	Lluis Jofre
Compiler name	Hugo Espinosa
Compiler e-mail	hugo@tsc.upc.es
Title	Near-field to Far-field transformation
Keyword	Near-field, far-field, spherical coordinates.
method	The near-field measured data (usually amplitude and phase distributions) are measured by a scanning field probe over a spherical surface. The measured data are then transformed to the far-field using analytical methods.
description	The dimensions of a conventional test range can be reduced by making measurements in the near-filed, and then using analytical methods to transform the measured near-field data to compute the far-field radiation characteristics. This executable module allows to transform near-fields to far-fields in spherical coordinates.
filename	
manual name	
limit	
language	English
software language	CC
other software	
type code in	ExecutableCode
other type code in	
additional software	No
willingness	Yes
contact name	SebastiÃ¡n Blanch
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Remote execution report

Partner name	ICCS/NTUA
Partner ID	18
WP leader	Dimitra Kaklamani
Compiler name	
Compiler e-mail	
Title	Modified Method of Auxiliary Sources for Antenna Modeling
Keyword	
method	
description	
filename	
manual name	
limit	
language	
software language	Fortran
other software	
type code in	ExecutableCode
other type code in	
additional software	
willingness	Yes
contact name	
contact address	
contact e-mail	