

# Ομότιμος Καθηγητής Θεόδωρος Δ. Τσιμπούκης

Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης (ΑΠΘ)

Τμήμα Ηλεκτρολόγων Μηχανικών & Μηχανικών Υπολογιστών (ΤΗΜΜΥ)

Πανεπιστημιούπολη, Τ.Κ. 54124, Θεσσαλονίκη

Τηλ.: 2310-996323 • Fax: 2310-996299 • E-mail: tsibukis@auth.gr

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## ΕΚΠΑΙΔΕΥΣΗ

### Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη

Διδάκτωρ Ηλεκτρολόγος Μηχανικός, Τμήμα Ηλεκτρολόγων Μηχανικών, 1976–1981

- Τίτλος Διατριβής: Ενεργειακές Θεωρήσεις στην Επίλυση Προβλημάτων του Ηλεκτρομαγνητικού Πεδίου.
- Αντικείμενο: Ηλεκτρομαγνητισμός

### Εθνικό Μετσόβιο Πολυτεχνείο, Αθήνα

Διπλωματούχος Ηλεκτρολόγος-Μηχανολόγος Μηχανικός, Σχολή Ηλεκτρολόγων-Μηχανολόγων Μηχανικών, 1966–1971

## ΑΚΑΔΗΜΑΪΚΕΣ ΘΕΣΕΙΣ

### Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη

Ομότιμος Καθηγητής του ΤΗΜΜΥ

2015–σήμερα

Καθηγητής του ΤΗΜΜΥ

1994–2015

Αναπληρωτής Καθηγητής του ΤΗΜΜΥ

1990–1994

Επίκουρος Καθηγητής του ΤΗΜΜΥ

1985–1990

Λέκτορας του ΤΗΜΜΥ

1982–1985

Βοηθός Έρευνας και Διδασκαλίας του ΤΗΜΜΥ

1976–1981

### Πανεπιστήμιο Southampton, Southampton, Μ. Βρετανία

Επισκέπτης Ερευνητής του Τμήματος Ηλεκτρολόγων Μηχανικών

1981–1982

## ΕΠΙΣΤΗΜΟΝΙΚΑ ΕΝΔΙΑΦΕΡΟΝΤΑ

- Υπολογιστικός ηλεκτρομαγνητισμός
  - Μέθοδοι στο πεδίο της συχνότητας: Μέθοδος των πεπερασμένων (κομβικών και διανυσματικών) πεπερασμένων στοιχείων, μέθοδος των ροπών, μέθοδος των οριακών στοιχείων, ολοκληρωτικές εξισώσεις.
  - Μέθοδοι στο πεδίο του χρόνου: Μέθοδος των πεπερασμένων διαφορών στο πεδίο του χρόνου, τεχνικές έμμεσης εναλλακτικής διεύθυνσης, μέθοδος των πεπερασμένων στοιχείων στο πεδίο του χρόνου.
  - Ανώτερης τάξης τεχνικές στο πεδίο της συχνότητας και του χρόνου.
  - Γενικές απορροφητικές συνθήκες και τέλεια προσαρμοσμένα στρώματα.
- Ενεργειακές και δυναμικές θεωρήσεις σε προβλήματα ηλεκτρομαγνητικού πεδίου.
- Αντίστροφα προβλήματα στον ηλεκτρομαγνητισμό και την ακουστική.
- Ανάλυση και βέλτιστη σχεδίαση μικροκυματικών διατάξεων κυματοδότησης και συστημάτων κεραιών.
- Τεχνικές διακριτοποίησης, αλγόριθμοι αυτόματης πλεγματοποίησης, και σχήματα μείωσης αριθμητικών σφαλμάτων.
- Μελέτη και μοντελοποίηση προηγμένων υλικών (μεταύλικά, διπλοαρνητικά μέσα, χειρόμορφα υλικά, δι-ανιστροπικά υλικά, νανομαγνητικά πλασματικά μέσα, μεταεπιφάνειες).
- Διατάξεις γραφενίου και διάδοση πλασματικών ρυθμών σε γραφένιο.
- Μικρο- και νανο-ηλεκτρομηχανικά συστήματα.

## ΔΙΔΑΣΚΑΛΙΑ ΜΑΘΗΜΑΤΩΝ

- Βασική θεωρία ηλεκτρομαγνητικού πεδίου.
- Διάδοση ηλεκτρομαγνητικών κυμάτων.
- Ειδικά κεφάλαια ηλεκτρομαγνητικού πεδίου.
- Υπολογιστικός ηλεκτρομαγνητισμός.

## ΠΕΡΙΛΗΨΗ ΔΗΜΟΣΙΕΥΜΕΝΟΥ ΕΡΕΥΝΗΤΙΚΟΥ ΕΡΓΟΥ

- Επίβλεψη **15** διδακτορικών διατριβών και μεγάλου πλήθους διπλωματικών εργασιών.
- Έκδοση **7** βιβλίων σε εθνικούς εκδοτικούς οίκους, **3** βιβλίων σε διεθνείς εκδοτικούς οίκους, και **16** κεφαλαίων/άρθρων βιβλίων.
- Δημοσίευση **169** εργασιών σε διεθνή επιστημονικά περιοδικά με κριτές.
- Παρουσίαση **194** ανακοινώσεων σε διεθνή επιστημονικά συνέδρια και **6** προσκεκλημένων διαλέξεων.
- Πάνω από **2400** αναφορές από τρίτους ανεξάρτητους ερευνητές.
- Συμμετοχή σε **28** διεθνή και εθνικά ερευνητικά προγράμματα ως κύριος ερευνητής ή μέλος της ερευνητικής ομάδας.

## ΔΙΟΙΚΗΤΙΚΕΣ ΔΡΑΣΤΗΡΙΟΤΗΤΕΣ

- Πρόεδρος του ΤΗΜΜΥ/ΑΠΘ (1997–2001).
- Μέλος της Συγκλήτου του ΑΠΘ (1997–2001).
- Αναπληρωτής Πρόεδρος του ΤΗΜΜΥ/ΑΠΘ (2014–2015).
- Διευθυντής του Τομέα Τηλεπικοινωνιών του ΤΗΜΜΥ/ΑΠΘ (1993–1997).

- *Ιδρυτής και Διευθυντής* της Εργαστηριακής Μονάδας Ηλεκτρομαγνητικών Εφαρμογών και Υπολογισμών του Εργαστηρίου Τηλεπικοινωνιών του ΤΗΜΜΥ/ΑΠΘ (1996–2015).
- *Πρόεδρος ή Μέλος* σε πληθώρα Εισηγητικών Επιτροπών (Επιτροπών Αξιολόγησης) και μέλος Εκλεκτορικών Σωμάτων για την εξέλιξη μελών ΔΕΠ του ΤΗΜΜΥ/ΑΠΘ, του ΑΠΘ, και άλλων Πανεπιστημιακών Ιδρυμάτων.
- *Πρόεδρος ή Μέλος* σε πληθώρα επιτροπών του ΤΗΜΜΥ/ΑΠΘ, της Πολυτεχνικής Σχολής του ΑΠΘ, και του ΑΠΘ.

#### ΕΠΙΣΤΗΜΟΝΙΚΕΣ ΔΡΑΣΤΗΡΙΟΤΗΤΕΣ

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- *Επιστημονικός Εκδότης* του 6th *International Journal of Theoretical Electrotechnics* (1996).
- *Πρόεδρος* συνεδριών σε πληθώρα διεθνών επιστημονικών συνεδρίων.
- *Πρόεδρος* της Τοπικής Οργανωτικής Επιτροπής του Διεθνούς Επιστημονικού Συνεδρίου *International Symposium on Theoretical Electrical Engineering (ISTET 1995)*.
- *Πρόεδρος* της Τεχνικής Επιτροπής Προγράμματος του Διεθνούς Επιστημονικού Συνεδρίου *Conference on Electromagnetic Field Computation (CEFC 2008)*.
- *Μέλος* της Τεχνικής Επιτροπής Προγράμματος του Διεθνούς Επιστημονικού Συνεδρίου *International Symposium on Electromagnetic Theory (URSI 2010: Commission B)*.
- *Μέλος* της Τεχνικής Επιτροπής Προγράμματος του Διεθνούς Επιστημονικού Συνεδρίου *Conference on the Computation of Electromagnetic Fields (COMPUMAG 2015)*.
- *Κριτής* σε πολλά Διεθνή Περιοδικά
  - *ενδεικτικά:* IEEE Transactions on (Magnetics; Antennas and Propagation; Microwave Theory and Techniques; Electromagnetic Compatibility), IEEE Microwave and Wireless Components Letters, IEEE Antennas and Wireless Components Letters, IET Microwave, Antennas and Propagation, IET Electronics Letters, Radio Science, COMPEL, Journal of Computational Physics, ACES Journal, Optics Express, Progress in Electromagnetic Research Journals, Journal of Lightwave Technology, Journal of Optical Society of America, Journal of Electromagnetic Waves and Applications, International Journal on Numerical Modeling, Electrical Engineering).
- *Κριτής* σε πολλά Διεθνή Συνέδρια
  - *ενδεικτικά:* IEEE Conference on Electromagnetic Field Computation (CEFC), IEEE Conference on the Computation of Electromagnetic Fields (COMPUMAG), IEEE International Magnetics Conference (INTERMAG), International Symposium on Electromagnetic Fields (ISEF), International Symposium on Theoretical Electrotechnics (ISTET), Annual Review of Progress in Applied Computational Electromagnetics Society (ACES), International Workshop on Optimization and Inverse Problems in Electromagnetism (OIPE).
- *Μέλος* πολλών Τριμελών Συμβουλευτικών και Επταμελών Εξεταστικών Επιτροπών Διδακτορικών Διατριβών στο ΤΗΜΜΥ/ΑΠΘ, στο ΑΠΘ, και σε άλλα Πανεπιστημιακά Ιδρύματα της Ελλάδας ή του εξωτερικού.
- *Εξωτερικός κριτής* διεθνών ερευνητικών προτάσεων (Ευρωπαϊκή Ένωση, Ακαδημία της Φινλανδίας, κ.α.).
- *Κριτής* εθνικών ερευνητικών προτάσεων.
- *Κριτής* στο Ίδρυμα Κρατικών Υποτροφιών (ΙΚΥ).

#### ΕΠΑΓΓΕΛΜΑΤΙΚΟΙ ΤΙΤΛΟΙ

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- Μέλος του/της:
  - (Πρεσβύτερο) *Institute of Electrical and Electronic Engineers (IEEE)*.
  - *International Comrumag Society (ICS)*.
  - *Τεχνικού Επιμελητηρίου Ελλάδας (ΤΕΕ)*.
  - *Επιστημονικού Εκδοτικού Συμβουλίου* του Διεθνούς Επιστημονικού Περιοδικού *The International Journal for Computation and Mathematics in Electrical and Electronic Engineering: COMPEL*, MCB University Press.
  - *Επιστημονικού Εκδοτικού Συμβουλίου* των Διεθνών Εκδόσεων: *Advances in Electrical and Electronic Engineering*, Computational Mechanics Publications.
  - *Τεχνικής Επιτροπής του Επεγγελματικού Δικτύου για τον Ηλεκτρομαγνητισμό* του *Institution of Engineering and Technology (IET)*.
  - *Οργανωτικής Επιτροπής* του Διεθνούς Επιστημονικού Συνεδρίου *International Symposium on Electromagnetic Fields in Electrical Engineering (ISEF 1995)*.
  - *Οργανωτικής Επιτροπής* του Διεθνούς Επιστημονικού Συνεδρίου *International Symposium on Electromagnetic Theory (URSI 1998: Commission B)*.
  - *Οργανωτικής Επιτροπής* του Διεθνούς Επιστημονικού Συνεδρίου *Japanese-Mediterranean Joint Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials (JAPMED 2003)*.

#### ΔΙΑΚΡΙΣΕΙΣ – ΒΡΑΒΕΙΑ

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- Πανελλήνιο Βραβείο της Ελληνικής Μαθηματικής Εταιρίας.
- IEEE CEFC2000 Best Paper Award.
- EMERALD/ISEF2001 Best Paper Award.
- Alessandro Volta Award.
- Most Outstanding Paper Award in the 2002 COMPEL Volume.
- EMC Europe 2004 Best Paper Award.
- Emerald Awards for Excellence – COMPEL Outstanding Reviewer Award 2008.
- EMC Europe 2014 URSI Commission E Best Paper Distinction.

- CEM 2014 Best Paper Award.

## ΔΙΔΑΚΤΟΡΙΚΕΣ ΔΙΑΤΡΙΒΕΣ

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1. **Δρ. Νικόλαος Α. Γκόλιας**
  - *Τίτλος:* Ενιαία Αντιμετώπιση 3-Διάστατων Προβλημάτων του Η/Μ Πεδίου με Αυτοβελτιούμενες Τεχνικές της Μεθόδου των Πεπερασμένων Στοιχείων (1993).
  - *Παρούσα θέση:* Διευθυντής Συστημάτων Ολοκλήρωσης στην Romtelecom SA, Bucharest, Romania.
2. **Δρ. Τραϊανός Β. Γιούλτσας**
  - *Τίτλος:* Ανάπτυξη και Υλοποίηση Διανυσματικών Πεπερασμένων Στοιχείων Ανώτερης Τάξης σε Τρισδιάστατα Προβλήματα του Ηλεκτρομαγνητικού Πεδίου (1998).
  - *Παρούσα θέση:* Αναπληρωτής Καθηγητής του ΤΗΜΜΥ/ΑΠΘ, Θεσσαλονίκη.
3. **Δρ. Ιωάννης Θ. Ρέκανος**
  - *Τίτλος:* Επίλυση του Αντίστροφου Προβλήματος Ηλεκτρομαγνητικής Σκέδασης με τη Χρήση της Μεθόδου των Πεπερασμένων Στοιχείων και της Μη Γραμμικής Βελτιστοποίησης (1998).
  - *Παρούσα θέση:* Καθηγητής του ΤΗΜΜΥ/ΑΠΘ, Θεσσαλονίκη.
4. **Δρ. Νικόλαος Β. Κανταρτζής**
  - *Τίτλος:* Ανάπτυξη και Υλοποίηση Γενικευμένων Ανώτερης Τάξης Πεπερασμένων Διαφορών στο Πεδίο του Χρόνου και Πλήρως Απορροφητικών Τέλεια Προσαρμοσμένων Στρωμάτων σε Καμπυλόγραμμα Προβλήματα του Ηλεκτρομαγνητικού Πεδίου (1999).
  - *Παρούσα θέση:* Αναπληρωτής Καθηγητής του ΤΗΜΜΥ/ΑΠΘ, Θεσσαλονίκη.
5. **Δρ. Θεόδωρος Ι. Κοσμάνης**
  - *Τίτλος:* Ανάπτυξη Τοπολογικά Συνεπούς Σύμμορφης Μεθόδου των Πεπερασμένων Διαφορών στο Πεδίο του Χρόνου για τη Μοντελοποίηση Μη Ορθογωνικών Διατάξεων στις 3 Διαστάσεις (2002).
  - *Παρούσα θέση:* Αναπληρωτής Καθηγητής του Τμήματος Μηχανολόγων Οχημάτων, Αλεξάνδρειο Τεχνολογικό Εκπαιδευτικό Ίδρυμα Θεσσαλονίκης, Σίνδος, Θεσσαλονίκη.
6. **Δρ. Θεόδωρος Θ. Ζυγκιρίδης**
  - *Τίτλος:* Ανάπτυξη Βελτιστοποιημένων Σχημάτων Πεπερασμένων Διαφορών Ανώτερης Τάξης για την Ακριβή Επίλυση Ηλεκτρομαγνητικών Προβλημάτων στο Πεδίο του Χρόνου (2005).
  - *Παρούσα θέση:* Επίκουρος Καθηγητής του Τμήματος Μηχανικών Πληροφορικής & Τηλεπικοινωνιών, Πανεπιστήμιο Δυτικής Μακεδονίας, Κοζάνη.
7. **Δρ. Κωνσταντίνος Π. Προκοπίδης**
  - *Τίτλος:* Ανάπτυξη Προηγμένων Σχημάτων Πεπερασμένων Διαφορών στο Πεδίο του Χρόνου (Εφαρμογή στη Διάδοση Κυμάτων σε Υλικά με Απώλειες και Διασπορά στις Μικροκυματικές Συχνότητες) (2006).
  - *Παρούσα θέση:* Υπεύθυνος Μηχανοργάνωσης και Διαχείρισης Συστημάτων, Υποθηκοφυλακείο Θεσσαλονίκης, Θεσσαλονίκη.
8. **Δρ. Ελισάβετ Π. Κοσμίδου**
  - *Τίτλος:* Μελέτη Συντονιζόμενων Διατάξεων Διδιάστατων Φωτονικών Κρυστάλλων με Διήθηση Νηματικών Υγρών Κρυστάλλων (2006).
  - *Παρούσα θέση:* Μηχανικός Υπολογιστών, Περιφέρεια Ανατολικής Μακεδονίας και Θράκης, Αλεξανδρούπολη.
9. **Δρ. Αθανάσιος Γ. Πολυμερίδης**
  - *Τίτλος:* Επίλυση Προβλημάτων Σκέδασης και Ακτινοβολίας σε Επίπεδα Στρωματοποιημένα Μέσα με τη Μέθοδο των Ολοκληρωτικών Εξισώσεων (2008).
  - *Παρούσα θέση:* Επίκουρος Καθηγητής, Skoltech, Skolkovo Institute of Science and Technology, Skolkovo, Moscow, Russia.
10. **Δρ. Δημήτριος Χ. Ζωγραφόπουλος**
  - *Τίτλος:* Οπτικές Ίνες Φωτονικού Κρυστάλλου με Συντονιζόμενες Ιδιότητες Πόλωσης (2008).
  - *Παρούσα θέση:* Ερευνητής, Consiglio Nazionale delle Ricerche, Istituto per la Microelettronica e Microsistemi, Rome, Italy.
11. **Δρ. Δημήτριος Ι. Καρατζίδης**
  - *Τίτλος:* Ανάλυση και Σχεδίαση Μικροκυματικών Κυκλωμάτων και Κεραίων σε Επίπεδες Πολυστρωματικές Διατάξεις με Συνδυασμό της Μεθόδου των Πεπερασμένων Στοιχείων και Τεχνικών Βελτιστοποίησης (2009).
  - *Παρούσα θέση:* Καθηγητής Δευτεροβάθμιας Εκπαίδευσης, Σίνδος, Θεσσαλονίκη.
12. **Δρ. Δημήτριος Α. Σουνάς**
  - *Τίτλος:* Αναλυτική Μελέτη Επίπεδων και Σφηνοειδών Διατάξεων Διπλο-Αρνητικών Υλικών (2009).
  - *Παρούσα θέση:* Ερευνητής, Metamaterials and Plasmonics Group, Department of Electrical and Computer Engineering, The University of Texas at Austin, Austin, USA.
13. **Δρ. Αντώνιος Ξ. Λάλας**
  - *Τίτλος:* Συνδυαστικές Επαναπροσδιοριζόμενες Δομές Σύνθετων Περιοδικών Μέσων και Μικροηλεκτρομηχανικών Συστημάτων με Εφαρμογές στα Υλικά Ηλεκτρομαγνητικού Διακένου και τα Μεταύλικά (2011).
  - *Παρούσα θέση:* Ερευνητής, Ινστιτούτο Τεχνολογιών Πληροφορικής και Επικοινωνιών (ΙΠΤΗΛ), Εθνικό Κέντρο Έρευνας και Ανάπτυξης (ΕΚΕΤΑ), Θέρμη, Θεσσαλονίκη.

14. Δρ. Γεώργιος Δ. Μπουζιανάς
  - *Τίτλος:* Θεωρητική Ανάλυση και Προσομοιωτική Μελέτη στο Πεδίο του Χρόνου Σύνθετων Ηλεκτρομαγνητικών Φαινομένων σε Διατάξεις Γραφηνίου (2013).
  - *Παρούσα θέση:* Προϊστάμενος Τεχνολογίας και Συνιδρυτής της εταιρείας επιστημονικού λογισμικού Fieldscale, Θεσσαλονίκη.
15. Δρ. Αλέξανδρος Ι. Δημητριάδης
  - *Τίτλος:* Ανάλυση, Σχεδίαση και Μοντελοποίηση Περιοδικών Μεταεπιφανειών Μέσω Ενεργών Επιφανειακών Επιδεκτικότητας (2013).
  - *Παρούσα θέση:* Μεταδιδακτορικός Ερευνητής, Laboratory of Nanostructured Materials Physics (LPMN), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.

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#### BIBΛΙΑ – ΜΟΝΟΓΡΑΦΙΕΣ

1. Θ. Δ. Τσιμπούκης, *Ενεργειακές Θεωρήσεις στην Επίλυση Προβλημάτων του Ηλεκτρομαγνητικού Πεδίου*, ΑΠΘ (μονογραφία).
2. Θ. Δ. Τσιμπούκης, *Εισαγωγή στη Βασική Θεωρία του Ηλεκτρομαγνητικού Πεδίου. Τόμοι 1, 2 και 3*, University Studio Press, Θεσσαλονίκη, 1992 (ISBN: 978-960-12-0263-1, 978-960-12-0264-8, 978-960-12-0265-5).
3. T. D. Tsiboukis (Ed.), *The 6th International Journal of Theoretical Electrotechnics*, Thessaloniki, Greece, 1996.
4. Θ. Δ. Τσιμπούκης, *Ηλεκτρομαγνητισμός. Στοιχεία Θεωρίας και Ασκήσεις, Τόμοι 1 και 2*, Θεσσαλονίκη, 2005.
5. Θ. Δ. Τσιμπούκης, *Ειδικά Κεφάλαια Ηλεκτρομαγνητικού Πεδίου. Ενεργειακές Μέθοδοι*, Υπηρεσία Δημοσιευμάτων ΑΠΘ, Θεσσαλονίκη, 2005.
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#### ΕΤΕΡΟΑΝΑΦΟΡΕΣ

Πάνω από **2400** ετεροαναφορές σε βιβλία, έγκριτα διεθνή περιοδικά και πρακτικά διεθνών επιστημονικών συνεδρίων σύμφωνα με τα *ISI Web of Science*, *Scopus*, *IEEE Explore*, και *Google Scholar*.

#### ΕΡΕΥΝΗΤΙΚΑ ΠΡΟΓΡΑΜΜΑΤΑ

1. Πεδιακή Ανάλυση και Επεξεργασία Σήματος στα Προβλήματα Τομογραφίας Μαγνητικού Συντονισμού (*Γενική Γραμματοειά Έρευνας και Τεχνολογίας: ΓΓΕΤ*).
2. Τηλεπισκόπηση της Επιφάνειας της Θάλασσας (*ΓΓΕΤ*).
3. Ολοκλήρωση Υποδομής για Έρευνα στις Περιοχές Ρομποτικής, Τηλεπικοινωνιών και Βιοϊατρικής Τεχνολογίας (*Μεσογειακά Ολοκληρωμένα Προγράμματα Πληροφορικής/ΓΓΕΤ*).
4. Βελτιστοποίηση της Κάλυψης των Συστημάτων Κινητών Επικοινωνιών Θάλασσας και Τηλεειδοποίησης (*Οργανισμός Τηλεπικοινωνιών Ελλάδας: ΟΤΕ*).
5. Μελέτη της Παραμόρφωσης του Πεδίου Ακτινοβολίας Κεραίας που Προκαλείται Από την Παρουσία Ανομοιογενειών στον Εγγύς στην Κεραία Χώρο (*ΟΤΕ*).
6. Ανάπτυξη Πολαριμετρικού Doppler UHF Radar για την Επιτήρηση Ανέμων, Υδρομετεώρων, Προσπτώσεων και Ρυπαντών στην Κατώτερη Τροπόσφαιρα (*Πρόγραμμα Ενίσχυσης Ερευνητικού Δυναμικού: ΠΕΝΕΔ/ΓΓΕΤ*).
7. Combined Electromagnetic – Circuit Analysis of Electrical Machines (*Training and Mobility of Researchers: TMR/Ευρωπαϊκή Ένωση*).
8. Ανάπτυξη και Κατασκευή Εξειδικευμένου Οχήματος Ηλεκτρομαγνητικών Μετρήσεων (*ΟΤΕ*).
9. Δίκτυο Μέσης Τάσης (*Επιτροπή Ερευνών: ΕΕ/ΑΠΘ*).
10. Ανάπτυξη Προηγμένων Τεχνικών και Εξειδικευμένου Λογισμικού για την Ηλεκτρομαγνητική Ανάλυση Πολύπλοκων Βιοϊατρικών και Τηλεπικοινωνιακών Συστημάτων (*ΠΕΝΕΔ/ΓΓΕΤ*).
11. Ανάπτυξη Λογισμικού CAD ανάλυσης και Σχεδιασμού Ολοκληρωμένων Οπτικών Εξαρτημάτων (*ΠΕΝΕΔ/ΓΓΕΤ*).
12. Επί τόπου (On-Site) Μετρήσεις Ηλεκτρομαγνητικού Πεδίου για Τηλεπικοινωνιακές και Βιομηχανικές Εφαρμογές (*ΕΠΕΤ II/ΓΓΕΤ*).
13. Δίκτυο Τηλεπικοινωνιών ISDN ΑΠΘ (*Επιχειρησιακού Προγράμματος Εκπαίδευσης και Αρχικής Επαγγελματικής Κατάρτισης: ΕΠΕΑΕΚ/2ο Κοινωνικό Πλαίσιο Στήριξης*).
14. Ενίσχυση της Ερευνητικής Υποδομής του ΤΗΜΜΥ (*ΕΕ/ΑΠΘ*).
15. Scale Resolution Problem in Electromagnetic Time-Domain Simulations (*TMR/Ευρωπαϊκή Ένωση*).
16. Ανάπτυξη Ολοκληρωμένης Μελέτης των επιπτώσεων της Η/Μ Ακτινοβολίας στο Έμβρυο του Εμφύου και Προσομοιωτική Προσέγγιση σε Ανθρώπινους και Ζωικούς Οργανισμούς (*ΠΕΝΕΔ/ΓΓΕΤ*).
17. Σύνταξη Διαγραμμάτων Ηλεκτρομαγνητικής Ακτινοβολίας στην Πόλη των Σερρών και Διερεύνηση Χωροθέτησης Πάρκου Κεραίων (*Δήμος Σερρών*).

18. Ολοκληρωμένη Προσομοιωτική και Πειραματική Μελέτη της Επίδρασης της Ακτινοβολίας Σύγχρονων Ασύρματων Συστημάτων στον Άνθρωπο (*ΠΕΝΕΔ/ΓΓΕΤ*).
19. Ανάπτυξη Προηγμένων Σχημάτων Πεπερασμένων Διαφορών στο Πεδίο του Χρόνου (*ΗΡΑΚΛΕΙΤΟΣ Υποτροφίες Έρευνας ΑΠΘ/Υπουργείο Εθνικής Παιδείας και Θρησκευμάτων*).
20. Μετρήσεις Πυκνότητας Ισχύος Ηλεκτρομαγνητικής Ακτινοβολίας και Έντασης Ακουστικού Κύματος (*ΕΕ/ΑΠΘ*).
21. Θεωρητική Θεμελίωση και Ανάπτυξη Ολοκληρωμένης Αριθμητικής Μεθοδολογίας για την Επίλυση Ρεαλιστικών Προβλημάτων Ηλεκτρομαγνητικής Συμβατότητας με Αυθαίρετη Γεωμετρία σε Χώρους Τριών Διαστάσεων (*ΙΚΥ*).
22. Γενίκευση της Τοπολογικά Συνεπούς Σύμμορφης Μεθόδου των Πεπερασμένων Διαφορών στο Πεδίο του Χρόνου για Πλήρως Τριδιάστατες μη Ορθογωνικές Διεπιφάνειες (*ΙΚΥ*).
23. Σχεδιασμός και Ανάπτυξη Καινοτόμων Διατάξεων για Μικροκυματικές και Οπτικές Επικοινωνίες (*ΠΕΝΕΔ/ΓΓΕΤ*).
24. Βελτιστοποιημένα Υβριδικά Υπολογιστικά Μοντέλα Πεπερασμένων Διαφορών για Πολύπλοκα Ηλεκτρομαγνητικά Προβλήματα (*Επιτροπή Έρευνών: ΕΕ/ΑΠΘ*).
25. Υβριδικοί Αλγόριθμοι και Βοηθητικές Τεχνικές για τη Γενικευμένη Εφαρμογή Σχημάτων Βελτιστοποιημένης Διασποράς σε Πολύπλοκα Ηλεκτρομαγνητικά Προβλήματα (*ΙΚΥ*).
26. Σχεδίαση, Ανάλυση και Μοντελοποίηση Μικροκυματικών Διατάξεων από Μεταλλικά (*Εθνικό Στρατηγικό Πλαίσιο Αναφοράς (ΕΣΠΑ): ΗΡΑΚΛΕΙΤΟΣ II*).
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