INTERNATIONAL CONFERENCE

CAPRI, ITALY
15 - 17 May 2001
INTERNATIONAL SCIENTIFIC COMMITTEE

Prof. E. Pagano *(Chairman)* (Univ. Naples, Italy)
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Capri, a beautiful island in the Gulf of Naples, is a perfect location for international Congresses. It is small enough and friendly enough, to explore thoroughly on foot. Capri is called “Blue” after its sea which colours itself with tones that range from turquoise to blue. The first ones to appreciate the beauties of this island were the Romans and among them, the Emperor Tiberius. He lived in Capri, and adorned it with fabulous villas. From the port, by means of large boats leaving at any hour, excursions can be made to the mythical Blue Grotta; and also from the port, the funicolare (cable railway) transfers tourists to the terrace from which Marina Grande can be seen. Just next to this terrace there is the famous exclusive Piazzetta, teeming with people at any hour of the day or night. From it the narrow streets spread out crossing the town, at their sides shops rich with handicraft products. The Conference will be held at Centro Congressi Capri, situated in a central position near the well-known piazzetta.
HOW TO TRAVEL TO CAPRI

From Naples airport “Capodichino” bus transportation is available to the city center; last stop is in Piazza Municipio, a square close to Molo Beverello Port (3 minutes walking). Bus departures are every 30 minutes from 6.00 a.m. till midnight. The service is run by C.L.P. Company and takes about 30 minutes.

From Naples train station “Napoli Centrale” taxis are available and take 10 minutes to reach Molo Beverello Port. Public transportations (orange buses ATAN) are available too. They take about 25 minutes. Bus tickets can be purchased at the bus station.

From Naples train station “Mergellina” it is possible to reach the touristic Mergellina Port in 5 minutes walking (it is located 300 m from Mergellina Station). Mergellina train station is also linked to the Centrale station by Underground (about 10 minutes, departures every 15 minutes).

Hydrofoils and ferries depart from Naples ports “Mergellina” and “Molo Beverello” to Capri. Tickets offices are near the boarding area. Please buy tickets at the office of the selected company.

From Capri Port (Marina Grande) a cable railway (Funicolare) transfers passengers in 3 minutes to the center of Capri. Departures are scheduled every 15 minutes.

Centro Congressi Capri is located about 300 m from the Funicolare arrival station.
GENERAL INFORMATION

TECHNICAL PROGRAM
The symposium opens on Tuesday, May 15th and closes on Thursday, May 17th, 2001. All the contributions will be presented orally by the Authors (about 15 minutes each). The presence of the authors (at least one per paper) is necessary.

WORKING LANGUAGE
The working language of the Conference, for both presentations and discussions, will be English. Simultaneous translation will not be provided.

CONFERENCE PROCEEDINGS
Each registrant will receive a copy of the Conference Proceedings containing the text of the contributions.

REFRESHMENTS
Refreshments will be served each day at the time indicated in the programme.

HOTEL
For the reservation of hotel rooms all participants are kindly requested to refer to the reservation form.

CONFERENCE FEES
The fee entitles the registrants to participate to all the sessions.
- Full conference fee: Euro 500
- Accompanying Persons: Euro 200

(Included lunches without wine, the social dinner and the coffee breaks)
Please use the enclosed registration form when registering for the Conference. Payment should also be made at the Secretary Desk but we strongly encourage you to pay in advance by Bank Transfer.

SECRETARY DESK
The Secretary Desk will operate according to the following schedule:
- Monday, May 14th: 16.00 -17.30 hrs
- Tuesday, May 15th: 8.00 - 12.00; 14.30 - 16.30 hrs
- Wednesday, May 16th: 9.00 - 12.00; 14.30 - 16.30 hrs
- Thursday, May 17th: 9.00 - 12.00 hrs
9:00 hrs  Welcome addresses, opening session

9:30 hrs  SESSION 1: CONTROL TECHNIQUES AND DESIGN OF TRACTION MOTORS
Chairman: E. Yamada
Co-chairmen: B. de Fornel, R. Pfeiffer

Vector Control Methods of Parallel-connected Induction Motors
S. Kuramoti, H. Matsuda, M. Yano (JAPAN)

Mathematical Model of a Double Squirrel — Cage Asynchronous Motor
N. Galan, G. Ciumbulea (ROMANIA)

Range of Applications of Linear Motor Technology Within the Wheel — Rail System
D. Leinhos, F. Hörl (GERMANY)

Control of Independently Motored Wheelset for Active Steering
Y. Kamada, T. Koseki (JAPAN)

10:30 hrs  Coffee Break

11:00 hrs  Application of Anti-slip Adhesion Control with Adhesion Prediction to Commuter Electric Multiple Units
T. Watanabe (JAPAN)

Active Antiskidding Control Strategy on Electric Locomotives
F. Bassi, O. Bruno, A. Landi, L. Sani, P. Masini, A.G. Violi (ITALY)

Re-adhesion Control without Speed Sensor of Electric Vehicle with Multiple Motor Drive
T. Watanabe, M. Yamashita (JAPAN)

On the Design of DC Motors for Both DC and AC Electric Traction
C. Cabrita (PORTUGAL)

Neural Networks Reconstruct Train Speed During Braking
G. Cacci, P. Presciani, P. Toni, M.C. Valigi (ITALY)

Optimized DTC Technique in Induction Motor Drives for Traction Drives
A. Del Pizzo, M. D’Incecco, P. Marino, N. Visciano (ITALY)

13:00 hrs  Brunch
14:30 hrs  SESSION 2: MODELLING
Chairman: L. Bianco
Co-chairmen: A. Binder, T. A. Lipo

**FORMAL METHODS IN DEVELOPMENT AND TESTING OF RAILWAY INTERLOCKING SYSTEMS**
T. Hlavatý, Š. Klapka, L. Preucil, P. Stepan (CZECH REPUBLIC)

**THE INNOVATIVE TRACTION SYSTEM OF DIESEL-ELECTRIC MULTIPLE UNIT LIREX**
H. P. Beck, B. Engel, C. Söffker (GERMANY)

**TRAIN POSITIONING USING INTEGRATED SATELLITE/INERTIAL NAVIGATION SYSTEMS**
G.B. Palmerini, P. Pascucci Palmerini (ITALY)

**DESCRIPTION OF THE EVENTS AND LOGICAL SPECULATION**
N. Gomiero (ITALY)

**USE OF THE BOUNDARY ELEMENT METHOD FOR CHARACTERIZATION OF TRACK SYSTEMS**
J. Van der Merwe, A. J. P van Deursen, H. W. M. Smulders (THE NEDERLANDS)

16:00 hrs  Coffee Break

16:30 hrs  ANALYSIS OF THE ROLE OF RAILWAY INFRASTRUCTURE MANAGERS WITHIN LIBERALISED ELECTRICITY MARKETS, THE CASE OF GIF IN SPAIN
P. Linears, E. Pilo, L. Rouco, P. Sánchez, P. Romera (SPAIN)

**MAINTENANCE IN LARGE AREA SYSTEMS - MILAS**
B. Wiegand (GERMANY)

**A RAILWAY SYSTEM FOR A CITY OF 40000 INHABITANTS**
L. Carlomusto, S. Clemente, A. D’Ambrosio, M. D’Ambrosio, A. Villanova (ITALY)
SESSION 3: DC AND AC RAILWAY TRACTION DRIVES
Chairman: G. R. Corazza
Co-chairmen: M. Debruyne, J. Niiranen

TECHNOLOGICAL DEVELOPMENT OF AN IGBT APPLIED TRACTION SYSTEM FOR THE SERIES 700 SHINKANSEN HIGH–SPEED TRAIN
Y. Hagihara (JAPAN)

TRENDS IN IGBT TRACTION CONVERTERS
M. Bakran, H. G. Heckel (GERMANY)

ONIX 3000: HOW TO COMBINE IGBT AND INVERTER DIRECTLY COUPLED TO A 3 KV CATEYAN
J. M. Bodson, J. Bou Saada, A. Colasse, L. Delporte, J. E. Masselus, P. Mathyse, M. Osice (BELGIUM)

PRESS-PACK IGBT CONVERTER FOR HEAVY LOCOS AND HIGH-SPEED TRAINS
L. Fratelli, G. Bocchetti (ITALY)

EVALUATION OF THE PROTOTYPE IEGT TRACTION CONVERTER FOR SHINKANSEN

10:30 hrs Coffee Break

HIGH PERFORMANCE LOCOMOTIVES: WHAT DRIVE FOR WHICH SPEED?
A. Binder, O. Koerner, W. Breuer (GERMANY)

STUDY OF SUPERCONDUCTING TRANSFORMER FOR SHINKANSEN ROLLING STOCK
H. Hata, H. Kamijo, H. Fujimoto (JAPAN)

CONTROL SYSTEM FOR MULTIDRIVE ELECTRIC TRACTION
I. Strainescu, V. Radulescu, E. Tudor (ROMANIA)

ADVANCED CONVERTER AND CONTROL COMPONENTS FOR THE HIGH–SPEED TRANSRAPID DRIVE SYSTEMS
U. Henning, R. Hellinger, J. Nothhaft, M. Engel (GERMANY)

TIME–DOMAIN ANALYSIS OF A THREE–LEVEL SPACE–VECTOR PWM INVERTER FED INDUCTION MOTOR DRIVE
J. Klíma (CZECH REPUBLIC)

13:00 hrs Brunch
14:30 hrs  SESSION 4: SUPPLYING LINES AND VIBRATIONS  
Chairman: K. Althammer  
Co-chairmen: A. Junesse, N. Mort  

MEASUREMENT SYSTEMS FOR AC TRACTION POWER SUPPLY SYSTEMS  
R.R.A. de Graafft, G. Van Alphen, M.F.P. Janssen, H.V.M. Smulders  
(THE NEDERLANDS)  

CHARACTERISTICS OF SUBSTATION SUPPORT EQUIPMENT ON DC FEEDING SYSTEM  
K. Katayama, S. Hase, S. Umeda, Y. Nakamura  
(JAPAN)  

DETERMINING DYNAMIC PROPERTIES OF ACTIVE ELECTRO-MECHANICAL SUSPENSION FOR IMPROVED RAIL VEHICLE PERFORMANCE  
P. Kjellqvist, S. Östlund  
(SWEDEN)  

INNOVATIVE METHODS FOR EVALUATING THE QUALITY OF THE CURRENT COLLECTION  
A. Balestrino, O. Bruno, A. Landi, L. Sani, M. Papi, A. G. Violi  
(ITALY)  

INVESTIGATION OF ELECTRICAL NETWORK SUPPLYING RAILWAY TRACTION SYSTEMS  
T. Szarka, L. Szentirmai  
(HUNGARY)  

A CONTROL PROPOSAL OF DC ELECTRIFIED RAILWAY SUPPLY SYSTEMS  
L. Battistelli, F. Ferraioli, D. Lauria, D. Villacci  
(ITALY)  

16:00 hrs  Coffee Break  

16:30 hrs  SESSION 5: HARMONIC DISTORTION  
Chairman: E. Takahara  
Co-chairmen: E. Andersson, G. Coquery  

HARMONIC INTERACTION IN MULTICONVERTER SYSTEMS: FREQUENCY DOMAIN MODELLING METHOD  
S. Belin, M. Iordache, F. Marin, E. Mendes, C. Marchand  
(FRANCE)  

PROVISIONS AGAINST INTERFERENCE ON ITALIAN 3 KV DC LINE TRACK CIRCUITS GENERATED BY HIGH SPEED LINE 25 KV AC SUPPLY SYSTEMS  
E. Fedeli, E. Marzilli  
(ITALY)  

ELECTRICAL SYSTEMS COMPATIBILITY PROBLEMS ON THE EUROPEAN RAILWAY NETWORK – ESCARV PROJECT RESULTS  
U. Henning, A. J. Petersen, D. Würgler, V. Staudt, P. Pozzobon  
(GERMANY)
SESSION 6: RELIABILITY AND EXPERIMENTAL TESTS
Chairman: M. Yano
Co-chairmen: T. Watanabe, M. Radulescu

ON THE RELIABILITY OF IGBT CONVERTERS FOR TRACTION APPLICATION
B. Cascone, L. Fratelli, G. Giannini (ITALY)

USE OF SYNTHETIC MODELS FOR THE EVALUATION OF RELIABILITY AND REGULARITY OF RAILWAY OPERATION
G. Malavasi, S. Ricci (ITALY)

HIGH-PERFORMANCE COPPER-MAGNESIUM ALLOY CONTACT WIRE
HIGH SPEED RELIABILITY AND EXTENDED LIFE CYCLE
A. Ulschamp (DANMARK)

THE STRAY CURRENT COMPUTER DISTRIBUTED REAL-TIME MONITORING SYSTEM IN WARSAW METRO TUNNELS—HARDWARE AND SOFTWARE
J. Dabrowski, S. Jasinski, A. Kochan, A. Magdalinska (POLAND)

10:30 hrs Coffee Break

11:00 hrs EXPERIMENTAL AND THEORETICAL ANALYSIS OF AN AXIALLY MOVING SYSTEM
F. Pellicano, F. Vestroni, A. Fregolent (ITALY)

TRAIN SPEED ESTIMATION FROM WHEEL VELOCITY MEASUREMENTS
B. Alotta, M. Malvezzi, G. Cocci, P. Presciani (ITALY)

DETECTION OF ROTOR FAULTS IN INVERTER FED INDUCTION MACHINES BY MEANS OF THE VIENNA MONITORING METHOD—A PROPOSED APPLICATION FOR TRACTION DRIVES
C. Kral, F. Pirker, G. Pascoli (AUSTRIA)

SCALE MODEL FOR EXPERIMENTAL ANALYSIS OF DYNAMIC BEHAVIOUR OF RAILWAY TRACTION SYSTEMS
P. Grassia, D. Iannuzzi, M. Migliaccio, E. Pagano (ITALY)

SOFTWARE TEST BED—PC BASED REAL TIME SIMULATION AS A TEST TOOL FOR TRACTION CONTROL SYSTEM
K. P. Sundararajan (INDIA)

12:30 hrs Closing remarks
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