etc2002

European Telemetry Conference with Exhibition

AIMS2002

Symposium Aircraft Integrated Monitoring Systems

27. - 30. 05. 2002 Garmisch-Partenkirchen, Kongresshaus / Germany

organized by: Arbeitskreis Telemetrie e.V.

German Society of Telemetering

in cooperation with:

* Deutsche Gesellschaft für Luft- u. Raumfahrt Lilienthal – Oberth e.V. (DGLR) Fachausschuß 6.1 "Telemetrie"

- * Technische Universität München Lehrstuhl für Flugantriebe
- * International Foundation for Telemetering (IFT)
- * International Society on Biotelemetry (ISOB)
- * Société des Électriciens, des Électroniciens et des Radioélectriciens (SEE), Section 17

etc2002: Hans-Joachim Klewe

ETSC / ICTS: Gerhard V. Mayer

AIMS2002: Hans-Peter Kau

Ausstellung: Werner R. Lange Exhibition: Daniela Fessl

Organisationsbüro: Inge Schade Registration and Brigitte Rüba Conference Secretariat: Isolde Böhringer

Herta Klewe

Begleitprogramm:
Spouses Program:
Bayerischer Abend:
Bayarian Dinner:

The EUROPEAN TELEMETRY CONFERENCE etc2002 will be held as already known in form of a Congress and an Exhibition for Telemetry, Test-Instrumentation and Telecontrol in Garmisch-Partenkirchen, Germany, from May 27 to 30, 2002.

The Conference will present papers on Acquisition, Transmission, Recording and Processing of Data in Application-Areas of Telemetry, Telemetry related Procedures and Application of Devices and Systems related to Telemetry.

Attention will be drawn to the effects of electro-magnetic fields on biological systems, for example on telemetering data by cell-phone systems.

Along the conference the Plenary Meeting of the European Telemetry Standardization Committee [ETSC] as well as the Meeting of the International Consortium on Telemetry Spectrum [ICTS] will take place.

⇒⇒ Further a **Short Course CCSDS** (Consultative Committee for Space Data Systems) will be held in the context of the conference.

<u>Please register in due time (see page 4)</u>

Together with etc2002 the Symposium "Aircraft Integrated

Monitoring Systems" AIMS2002 will take place at the same time in Garmisch-Partenkirchen.

This offers the opportunity to the participants to attend to the presentations of both events as well as the common exhibition. Aircraft Integrated Monitoring Systems includes all systems and procedures which **serve** to the monitoring of state and performance of aircraft, avionic-systems, engines, structures and man-machine-systems, **analyse** system behaviour and operational state and **support** crew and ground-staff by suitable recommendations in the achievement of safe and economic aircraft operation.

The **exhibition** will give an extensive overall view of the latest developments in technology and on the great variety of hardware and software for instrumentation, installations and systems concerning Telemetry, Test Instrumentation and Remote Control. Many vendors and exhibitors are showing their supply at **etc2002**.

A **Bavarian Dinner** offers the opportunity for social contacts alongside the conference.

A **spouses program** with visits of places of interest in Garmisch-Partenkirchen and a bus-tour to the surroundings is planned.



European

Telemetry Conference

AIMS2002

Symposium Aircraft Integrated Monitoring Systems

Conference Program

Opening Session of etc2002

Monday, 27.05.2002 / 09:30 a.m. / Meeting Room U1

Welcome and Opening Addresses

- Conference Chairman
- Authorities of Garmisch-Partenkirchen

Opening Presentation

Effects of Electromagnetic Fields

Alleged health hazards of mobile Communication Michael Bornhausen

Short Course CCSDS

Wednesday, 29.05.2002, 09:00 – 15:30 Meeting Room Alpspitze

A sufficient Number of participants provided, a **Short Course CCSDS** will be held along etc 2002 by Lecturers of Avtek Systems, Inc.

This Course will have the following outline:

- Consultative Committee for Space Data Systems
 - CCSDS Organization
 - CCSDS Scope
 - CCSDS Services
 - Telemetry
 - Telecommand
 - Advanced Orbiting Systems
 - Space Link Extension
 - CCSDS Applications
 - CCSDS Space Communications Protocol Standards (SCPS)

For this course a registration fee of € 100,00 is to pay. **Registrations** should be made **not later than April 30, 2002**

Plenary Meeting of the European Standardization Committee

Thursday, 30.05.2002 / 10:30 – 12:00 Meeting Room Dreitorspitze

Preliminary Agenda

ETSC Status Report

- Chair Report (J.C.Ghnassia, G.Mayer)
- SC-1 RF-Spectrum & Frequency Management (J.M.Berges,G.Mayer)
- SC-2. Data Acquisition & Processing (R.W.Lange)
- SC-3. Data Recording & Storage (S.W.Lyons)

ARTM Status Briefing

Meeting of the

International Consortium on Telemetry Spectrum [ICTS]

Thursday, 30.05.2002 / 13:00 – 16:00 Meeting Room Dreitorspitze

ICTS Forum: World-Wide Spectrum Planning

- Overview of the ICTS (T.A.Chalfant, USA)
- Reports fromITU Regions on Topics of Interest Region 1 "Europe" (J.M.Berges, France) Region 2 "Americas" (M.R.Ryan,USA) Region 3 " Asia/Pacific" (V.Crouch,Australia)
- TM-Band Augmentation
 Status of the ICTS-Working Group, formed to address
 WRC Agenda Items on Telemetry and Band Augmentation
 (D.Ernst / D.Portigal, USA)
- TM-Band Harmonization Actual Reports from ITU Regions
- ITEA Instrumentation Workshop Report (held 30 th.April - 3 rd.May at Palmdale,California/USA)

Session 1

Data Recording and Storage

Monday, 27.05.2002 / 14:00 – 15:30 Meeting Room Zugspitze

14:00 An Overview of "New Technology"

Data Recorders

T.I. Mason, John Howard

Avalon Electronics Ltd.

14:30 Telemetry Data Recording Using the Min/Max Algorithm Michael J. Sullivan, David N. Kortik / Astro-Med

15:00 High Speed Data Recorder to receive and store Data up to 1 Gbps from the INTA Radar on a CASA Airplane Chris Duckling / L3 Communications Systems-East Marcos Garcia Rodriguez / INTA

Session 2

Data Acquisition, Processing and Monitoring

Monday, 27.05.2002 / 14:00 – 17:30 Meeting Room Dreitorspitze

- 14:00 SDLA, a rugged PC data logging / processing system in ATR size using COTS components Henning Trispel / Thales Elektronik Systeme GmbH
- 14:30 A High Performance Reconfigurable Next Generation
 Data Acquisition using COTS-Products
 Chris Dehmelt / L3-Communications Telemetry East
- 15:00 Research on Multi-signals Telemetry Data
 Acquisition Systems
 Bin Guo, Jiafeng Wang, Shiyan Liu
 Electronic Engineering Institute of
 China Academy of Engineering Physics
- 16:00 The Anti-Interfering Analysis of PPCM Frame-Sync-Code Jiangfeng Ye, Shiyan Liu, Jiafeng Wang Electronic Engineering Institute of China Academy of Engineering Physics
- 16:30 Specifying a PCMCIA IRIG 106 (Ch.4) Decommutator Niall McGirr / ACRA CONTROL Ltd.
- 17:00 Defining an Open Flight Data Acquisition System Diarmuid Corry / ACRA CONTROL Ltd.

Session 2 (continued)

Data Acquisition, Processing and Monitoring

Tuesday, 28.05.2002 / 08:30 – 10:30 Meeting Room Dreitorspitze

09:00 Signal Processing about a Distributed Data
Acquisition System
William Malatesta / ACRA CONTROL Ltd.

09:30 Vizualisation within Test and Evaluation

Richard Thorpe, QuinetiQ Boscombe Down

10:00 Universal Integrated Signal Conditioning for Data Acquisition System

Gael Brute de Remur / IN-SNEC

Session 3

Test Ranges, Ground Stations

Monday,27.05.2002 / 16:00 – 17:30 Meeting Room Zugspitze

16:00 Telemetry Facility capability enhancements at the UK's Hebrides Range Steve W. Lyons / QinetiQ

16:30 Advanced Range Telemetry

James Tedeschi / Edwards AFB

17:00 Best Source Selection

Werner R. Lange / Acroamatics Inc.

Test Ranges, Ground Stations (continued)

Tuesday,28.05.2002 / 09:00 – 10:30 Meeting Room Zugspitze

09:00 Highrate Data Reception Systems for Earth Observation Satellites Joachim Schwarz / DLR-DFD

09:30 Reengineering a Traditional Spacecraft
Control Center
Klaus Nötzel / Deutsche Telecom AG
Christian Knauer / CAM GmbH

10:00 Low Budget Satellite Communication
Ground Station for Packet Data Transmission
Chris Dewanto, Moch Ichsan
Indonesia Institute of Aeronautics and Space
(LAPAN) / Indonesia
Clemens Marcuse / DLR-Aerospace Center
German Space Operation Center (GSOC) / Germany

Session 4

Telemetry Systems

Tuesday, 28.05.2002 / 11:00 – 15:30 Meeting Room Zugspitze

11:00 Positioning with Telemetry System

Miao Liucheng / Beijing Institute of Tracking
and Telecommunication Technology

11:30 Prospect of Telemetry Technology in China Yu Zhijian, Fang Hongrui Beijing Institute of Tracking and Telecommunication Technology

12:00 Reconfigurable technology and its telemetry applications

Henry Chandran / NAVTEL Systems SA

14:00 Spacelink^{NGT} / Next Generation TT&C Telemetry / Telecommand Systems *Pieter van Duijn, B.R. Tatman Satellite Services B.V.*

14:30 Frequency Allocation for Radio Telemetry
in the European Union – Requirements
on non licensed applications
Uwe Kartmann / CETECOM ICT Services GmbH

15:00 Telemetry Reception and Commanding with a
Low Cost Ground Station for the Small Satellite BIRD
Hakan Kayal / Axel Lauterbach
DLR Institute of Space Sensor Technology
and Planetary Exploration

Session 5

Telemetry Antennas

Tuesday,28.05.2002 / 16:00 – 17:30 Meeting Room Zugspitze

16:00 The design of a novel axial mode helical antenna with dual reflectors

Lin cui-Lee / Southwest Electronic

Engineering Institute / Sichuan, China

16:30 Spectrum Resources optimisation thanks to multi-antennas COFDM system.
Airbus Telemetry Application
Pierre Lemahieu / Sagem
Luc Falga / Airbus France

17:00 Analysis and Matching of Small Loop
Antennas for MicroRadio Transmitters
Jan van Niekerk / Microchip Technology

Session 6

Flight Test Instrumentation

Tuesday, 28.05.2002 / 11:00 – 15:30 Meeting Room Dreitorspitze

- 11:00 The Instrumentation Unit incorporated in the ASRAAM Telemetered Operational Missile Variant

 Jan Roderick, Dave Skidmore

 MATRA Bae Dynamics
- 11:30 A Web-Oriented Approach to Data
 Distribution and Work Collaboration in
 a Flight Test Environment
 Sergio D. Penna, Antonio M.L. Espeschit
 EMBRAER Flight Test Division
- 12:00 Time-Tagging Issues Related to
 Networked Data Acquisition Systems
 Tara Owens, Alfredo Berard, Tim Boolos
 USAF 46TW/TSI

14:00 The Telemetry Attributes Transfer Standard (TMATS) Reducing the Cost of Flight Test Michael A. Scardello / Spiral Technology Inc.

14:30 Applying Rules for Isochronous Sampling
within Acquisition Cycles to all Levels
of FTI System Definition
R. Fielding, Aaron McNelis / ACRA CONTROL Ltd.

15:00 Common Airborne Instrumentation System
A Fresh Look
Thomas Grace / Naval Air System Team

Session 7

Data Networks and Coding Techniques

Wednesday, 29.05.2002 / 09:00 – 12:30 Meeting Room Zugspitze

09:00 Test Range Data and Communication Networks: Packetized Telemetry Techniques Bridge the Gap David L. Grebe / Apogee Labs

09:30 Autonomous Acquisition of Environmental
Data in a Global Network Environment
Michael Grubinger, Felix Strohmeier
Universität Salzburg

10:00 CCSDS,NASA,IRIG- and US Government
Standardization and Developments of
Spectrally Efficient FQPSK
James A.McCorduck, Kamilo Feher
University of California
Tien M.Nguyen / The Aerospace Corporation

Session 7 (continued)

Data Networks and Coding Techniques

11:00 Advances in Ultra-High Spectrally
Efficient FQAM and FK Transceivers
James A.Mc.Corduck, Zhi Ding, Kamilo Feher
University of California
Tien M.Nguyen
The Aerospace Corporation

11:30 Ultra Spectrally Efficient Feher Keying (FK)
Developments
Jimsong Lin, Kamilo Feher
University of California

12:00 Fast Synchronized Noncoherent Detection of Standardized FQPSK and OQPSK Jimsong Lin, Kamilo Feher University of California

Session 8

Timing and Bus Systems

Wednesday, 29.05.2002 / 14:00 – 17:00 Meeting Room Zugspitze

14:00 Telemetry Data Encoder with an embedded GPS Receiver Alan Rivera / Herley Industries

14:30 Precise Clock Comparison with geodetic GPS Receivers

A. Moudrak, U. Grunert

15:00 Time and Frequency for an Integrated
Telemetry and Telecommunication Application
Werner R. Lange / Lange Electronic GmbH

16:00 Frequency and Timing for Test Fields

Avinoam Stern, Benny Levy / AccuBeat Ltd.

16:30 A 340-600 Experience feed back on on sensor's field buses

Laurent Viard / AIRBUS France

Session 9

Sensors and Sensor - Networks

Wednesday, 29.05.2002 / 09:00 – 12:00 Meeting Room Dreitorspitze

- 09:00 Smart sensors and network sensor systems.

 Two approaches providing smart sensor capabilities

 Bernard Ginn / Brüel & Kjaer Sound and Vibration A/S
- 09:30 Tail Rotor Flap Angle Measurements on a BO 105 Windtunnel Model Andreas Buschbaum / DLR Institute of Flight Research
- 10:00 Smart Sensors: Architecture and technological choices for future test installations
 Laurent Viard / AIRBUS France
- 11:00 IEEE P1451.3A Developing Standard for Networked Transducers Lee Eccles / Boeing Commercial Airplane Group
- 11:30 Airborne Icing Characterization Prototype Sandrine Roques / Airbus France

AIMS2002

Aircraft Integrated Monitoring Systems

Symposium Program_

Meeting Hall Olympia

System Architecture

Monday, 27.05.2002

- 14:00 Condition monitoring made more efficient, reliable & cost effective D. Stratton / Domain Dynamics Ltd. / UK
- 14:30 Architecture of the Airbus A380 ACMS

 Mark Wiegmann / EADS Airbus / D
- 15:00 Development of a Data Acquisition and Processing System for a Micro-Aerial-Vehicle (MAV) Marco Buschmann / TU Braunschweig / D
- 16:00 Amos Aims High as it Checks on Czech's L-159 Labri Ouchelouche / Speel Praha Ltd. / CZ
- 16:30 Suggestions for a new Data Management System on Military Aircraft

 Martin Geisreiter / EADS / D
- 17:00 Utilization of Cellular Communication and Internet Infrastructure for Automatic Delivery of Flight Data Tamás M. Iglói / Teledyne Controls / USA
- 17:30 Real-time Stability Analysis and Monitoring of Commercial Jet Engines with the SAM 1000 Thomas J.Rosenbauer

 L3 Communications Telemetry East / USA

Aircraft Operation

Tuesday, 28.05.2002

- 08:30 Transfer of FOQA from civil programs into military operational issues

 Everett W. Smith / U.S. Air Force Safety Centre / USA
- 09:00 Departure Warning System for Tornado A/C

 A. Schönhoff, EADS / D

 W. Nosse, Dornier / D
- 09:30 Improved military pilot training and flight safety control, supported by a flight profile recorder Jens Wagener, Helmut Rauch Bodensee Gerätetechnik GmbH / D

AIMS2002 (continued)

Aircraft Operation (continued)

Tuesday, 28.05.2002

- 10:00 Using AIMS during Airbus Aircraft
 Acceptance Phase in Hamburg
 Joachim Schedautzky, S.Knoop / EADS Airbus / D
- 11:00 An assessment of Eurocopter experience in HUMS development & support J.-M. Pouradier / Eurocopter / F
- 11:30 ASSIST: Pilot Assistance Gate to Gate Concept, Architecture, Onboard Functions

 J. Merkel / DLR / D
- 12:00 Enhanced Vision Systems: Automatic Situation Assessment for Safe Aircraft Operation B. Korn, H.-U. Döhler, P. Hecker / DLR / D

Aircraft Engineering

Tuesday, 28.05.2002

- 14:00 Cost Benefit by Engine Vibration Monitoring -A Case Study of the ACMS Usage in Boeing 737NG Staffan Elmén / Scandinavia Airlines / S
- 14:30 Advance System for Vibration Monitoring and Diagnosis on High Power Aero Engineering J.Moreno-Barragan / MTU Aero Engines / D
- 15:00 Troubleshooting an A/C wiring supported by a model-based diagnostic tool
 C. Haubach-Lippmann / EADS / D
- 16:00 EF2000 International Logistic Solution for "On – A/C Maintenance, Maintenance Planning and Operational Management" Uwe R. Iltgen / TopM / D

Structural / Loads Monitoring

Tuesday, 28.05.2002

- 16:30 RNLAF / F-16 Loads and Usage Monitoring / Management System Farid C. te Winkel National Aerospace Laboratory NLR / NL
- 17:00 Wireless Programmable Microsensors and MEMS for In-flight Monitoring of Aircraft Components and Systems V. K. Varadan / Penn. State University / USA

AIMS2002 (continued)

Structural / Loads Monitoring

Wednesday, 29.05.2002

09:00 Acoustic Wave Propagation Phenomenon Modelling and Damage Mechanisms in Ageing Aircraft W. J. Staszewski / University Sheffield / UK C. Boller / EADS / D

09:30 Crack Monitoring in A/C Structures with SMART Layer Technology

J.B. Ihn, F. K. Chang / Stanford University / USA

P. Xqing, M. Lin / Acellent Technology / USA

C. Boller / EADS / D

R. Ikegami / Boeing / USA

H. Speckmann / EADS Airbus / D

M. Derriso / AFRL / USA

10:00 Development of Measurement Technologies for Health Monitoring Applications

Arnd Reutlinger, R. Graue / Kayser Threde / D

New Concepts

Wednesday, 29.05.2002

- 11:00 A Contribution to Improve Flight Data Recorder Analysis and Ground Replay

 A. Schick, W. Nosse / Dornier / D
- 11:30 The Topology of AIMS Data Transfer Structures David Jesse / Flight Data Services Limited / UK
- 12:00 An Approach to the Analysis of Data from Aircraft Integrated Monitoring Systems and Flight Simulators Intend to Support the Development of Agents Assisting in Diagnose and Assess of Man/Machine Interactions

 Frank Köster, K. Mehl / Universität Oldenburg / D
- 12:30 The I-22 Iryda Power Plant Expert Aided Condition Monitoring System R.Szczepanik / Air Force Institute of Technology / Pl.

EXHIBITORS and COMPANIES represented at etc2002

Aacom Systems Inc.

Accubeat Ltd.

ACRA CONTROL LTD

Acroamatics Inc.

AIM GmbH

AKTM Arbeitskreis Telemetrie e.V.

Ampex Data Systems

Apogee Labs Inc.

Apollotek Ltd.

artronics gmbh

ASTRO-MED GmbH

Avalon Electronics Inc. Data Collection Systems

AVTEC Systems Inc.

BRIT Beijing research institute of telemetry

Calculex Inc.

CAM GmbH Tel Data Product Group

CIEL GmbH

Columbia Research Laboratories, Inc.

CONDOR Engineering

DECS Inc.

DELTA Information Systems

EIDEL Eidsvoll Electronics AS

Enerdyne Technologies Inc.

ENERTEC S.A.

GDP- Space Systems

Haigh Farr Inc.

Herley-Industries Inc.

HTS High Tech Systems S.A.

IN-SNEC

Intus GmbH

IXSEA BV

Jackson & Tull – Smartech Division

John Douglas Associates

KMT Kraus Messtechnik & Telemetrie GmbH

K+K GmbH

- L-3 Communications EMP Systems Inc.
- L-3 Communications Microdyne
- L-3 Communications Telemetry-East

L-3 Telemetry-West, Conic

L-3 Telemetry-West, Telemetry & Instrumentation

LANGE - ELECTRONIC GmbH

Logic Instrument GmbH

LPRA Low Power Radio Association

Lumistar, LLC

Malibu Research

Meinberg Funkuhren

micma GmbH and IBG

Neff Instrument Corp.

Park Controls & Communications Ltd.

PARTHUS Ltd.

PC - ELECTRONIC GmbH

QinetiQ

QuadTron Inc.

r.e.d. GmbH

RGB Spectrum

Satellite Services B.V.

SBS Technologies Inc.

Schleifring- und Apparatebau GmbH

SEMCO

SMP (Systeme Midi-Pyrenees)

Sony Precision Technology Europe GmbH

Spiral Technology Inc.

Spirent Communications (SW) Ltd.

STT System Technik Taubenreuther

Sypris Data Systems

Teledyne Controls

Teletronics Technology Corp.

Thales-Heim Systems GmbH

TSS Technical Software Service

Veridian Systems Inc.

Vertex Antennentechnik GmbH

Viasat

VuTrack Antenna

Warberry Communications

Wavelab Engineering AG

W V Communications

Exhibition Information

etc2002 and AIMS2002

The Exhibition will take place at the Foyer of the Congresscenter and in the Room Werdenfels

Exhibition Timetable

Sunday	26.05.2002	08.00 a.m. to 08.00 p.m. Exhibition Setup
Monday	27.05.2002 Exhibition Ope	11.30 a.m. ening Ceremony, Cocktail
		01.30 p.m. to 06.00 p.m. Exhibition
Tuesday	28.05.2002	09.00 a.m. to 12.00 a.m. 01.30 p.m. to 06.00 p.m. Exhibition
Wednesday	29.05.2002	09.00 a.m. to 03.00 p.m. Exhibition

The Exhibition closes Wednesday 03.00 p.m.

General Information

etc2002 and AIMS2002

Registration and Conference Secretariat Hours:

Sunday	26.05.2002	01.00 p.m.	to	07.00 p.m.
Monday	27.05.2002	08.30 a.m.	to	04.00 p.m.
Tuesday	28.05.2002	08.30 a.m.	to	04.00 p.m.
Wednesday	29.05.2002	08.30 a.m.	to	03.00 p.m.
Thursday	30.05.2002	09.00 a.m.	to	12.00 a.m.

Accomodations:

Garmisch-Partenkirchen offers a wide variety of Hotels, Inns, Pensions and Guesthouses to meet everybodys wishes. Most accommodations are within walking distance from the Congress Center. The easiest way to make hotel-reservations is to use the central reservation system "GAPdirekt". You will get information about all hotels. GAPdirekt offers also a Garmisch-Partenkirchen Catalogue with detailed information about all hotels and locations of Garmisch-Partenkirchen.

Please contact:

Coffee Breaks:

During Breaks of the technical sessions coffee and tea will be served at no charge in the conference lounges in the exhibit area.

Meals:

A restaurant is located within the Congress area. Other restaurants are located nearby in the city.

How to reach Garmisch:

1. Transfer from München Airport

By S-Bahn to Central Railway Station (Hauptbahnhof) every 15 min., traveling time approx. 50 min.

2. Railway Connections München Hauptbahnhof to Garmisch-Partenkirchen

3. Driving by Car

from Munich, follow the blue Autobahn sign "Garmisch-Partenkirchen".

Traveling time 1 hour (distance 100 km)

Social Program:

A Bavarian Dinner with entertainment program will take place on

Tuesday, May 28, 7.30 p.m.

at the Concerthall "Richard Strauss"

Price: €. 50,-/person

Please register at the conference desk.

Tours:

Sufficient participants provided, tours are planned on:

Monday, May 27 afternoon 02:00 p.m.

Meeting at the Congresshall

Afternoon-Tour by bus and horse-drawn carriage to the famous Partnach-Gorge.
By cable car to "Forsthaus Graseck" and hiking through the gorge

Tuesday, May 28 09:00 a.m.

Departure at the Congresshall

Bus Tour to Innsbruck (Austria) with visit of the exhibition "Swarowski Crystall Worlds" in Wattens on the way to Innsbruck. Guided sight-seeing tour of the historic Innsbruck.

For more information please contact the conference secretariat.

Conference Fees

Four-day ticket for etc2002 and AIMS2002 (conference proceedings for etc2002 or AIMS2002 and free admission to the exhibition incl.)	€	300,-
Four-day ticket for members of the Arbeitskreis Telemetrie e.V	€	280,-
One-day ticket for etc2002 and AIMS2002 (free admission to the exhibition included, without conference proceedings)	€	100,-
One-day ticket for members of the Arbeitskreis Telemetrie e.V.	€	90,-
Conference Proceedings (per single copy) for etc2002 or AIMS2002	€	50,-
Four-day ticket incl. admission to the exhibition without conference proceedings for students	€	25,-
Short Course CCSDS	€	100,-
Bavarian Dinner	€	50,-
Spouses Program	depending on exc	cursion

<u>Information and Registration</u>

Arbeitskreis Telemetrie e.V. German Society of Telemetering

Internet homepage http:\\www.aktm.org and http:\\www.etc2002.de

Conference Chairman etc2002:

Hans-Joachim Klewe

Arbeitskreis Telemetrie e.V German Society of Telemetering Im Ziegenförth 54 D-38108 Braunschweig

Tel: ++49/ (0)5 31 / 2 35 11 25 Fax. ++49/ (0)5 31 / 2 35 11 26

e-Mail: <u>Klewe-AKTM@t-online.de</u> <u>Klewe-AKTM@t-online.de</u>

Exhibition Chairman:

Werner R. Lange

Rudolf-Diesel-Strasse 29a D-82216 Gernlinden

Tel: ++49/ (0)81 42 / 28 45 82-9 Fax: ++49/ (0)81 42 / 28 45 82-2

e-Mail: info@aktm.org**WLange@lange-electronic.de**

e-Mail: info@etc2002.de

Symposium Chairman AIMS2002:

Prof. Dr.–Ing. Hans-Peter Kau Technische Universität München

Lehrstuhl für Flugantriebe

D-85747 Garching

Tel: +49/ (0)89 289 / 16 1 65 Fax: +49/ (0)89 289 / 16 1 66

e-Mail: AIMS@Ifa.mw.tum.de AIMS@Ifa.my.tum.de

Internet: http://www.lfa.mw.tum.de

The Place

...Garmisch Partenkirchen is located at the foot of Germany's highest mountain, the Zugspitze (9722 ft.) and the Alpspitze (8620 ft.), symbols of Werdenfels country. A wide choice of reasonable lodgings as well as a pleasant and international atmosphere awaits the visitor, the exhibitors and their attendants. For these reasons, it is a great idea to extend your stay in Garmisch-Partenkirchen beyond the duration of the etc 2002.

The Congress Hall

...consists of a complex of buildings which through its architecture fits perfectly into the Bavarian countryside. Situated in the centre of town and bordering the Municipal Park, it offers a variety of conference rooms and large exhibition areas and thus makes it possible to unify congress and exhibition under one roof.