



Second Announcement

**Presentation of PIV in CIRA Icing Wind Tunnel
&
Workshop on latest application and development of particle sizing techniques in
conjunction with PIV.
Communalities with PIV and advantages respect standard point wise techniques.**

10th-11th April 2006

Centro Italiano Ricerche Aerospaziali – CIRA
Via Maiorise, Capua (CE), Italy

General

The workshop is organised in the framework of PivNet 2, a thematic Network funded by the European community and in conjunction with the Network of Excellence: EWA European Wind Tunnel Association. PivNet 2 is composed by 38 partners from industry, research organizations and universities, coming from 14 countries. The 13 industrial partners are either PIV end users, or PIV manufacturers. The main research fields covered in the network are aeronautics, automotive, turbo machinery and the naval. EWA project is composed by 14 partners from industry and research organisations, operating in the aeronautics field from 8 different countries.

One of the main objectives of both networks is to establish direct information exchange between end users in industry and PIV developers in universities and research institutes by means of the organisation of thematic workshop and live demonstration in industrial wind tunnels.

Presentation and Objectives

Aggregation of ice on the exposed aerodynamic component of the vehicles is a major hazard for flying. The flow field perturbation due to ice accretion, the degradation of the aerodynamic performance or the chocking of the engine inlets are critical aspects for the performance and safety of airplanes and helicopters.

For these reasons since 2002 is available at CIRA the most advanced Icing Wind Tunnel for simulating the icing condition that can be encountered during the fly. The IWT foresees four different test sections, and can be operated in

the Mach range from 0.05 to 0.7. The tunnel has the capability to be pressurised for increasing the Reynolds number or to be de-pressurised for simulating the altitude up to 7000 meters. The static temperature can be reduced down to -40°C. In cooperation with the facility, dedicated measurement apparatus have been designed and built.

Among these, PIV is a fundamental tool for flow field characterisation in an adverse environment as an icing wind tunnel for its characteristics of low intrusivity, high resolution and high productivity. The knowledge of the evolution of water droplet trajectories and the modification of stream lines are fundamental for the validation of ice accretion codes. Besides, investigation of the cloud characteristics, as median volume diameter (MVD) and liquid water content (LWC) are basic aspects as well. In the field of particle sizing techniques based on laser interferometry and not only, the last developments seem really appealing for icing applications.

Scope of this workshop is to present the latest development of PIV techniques applied to icing accretion investigation and to dual phase flows and the newest improvement in the field of particle sizing in conjunction with PIV.

The aim of this workshop is to offer the chance to the scientist operating in these fields of applied and fundamental research, and to the end users operating in industrial facilities, to meet together and exchange experiences, feedback, questions and requests.

During the workshop it will be given the chance to assist to live demonstrations of applications of PIV technique in the Icing Wind Tunnel of CIRA.

Topics:

PIV application in Icing Wind Tunnel

PIV application to multi phase flows

Particle Sizing techniques-Applications and new development

Image Interrogation algorithms

Data post processing

Preliminary Program

Monday, April 10th

h	8.00	Registration
	8.40	Welcome and Presentation of the Workshop
	9.00	Keynote Lecture on ice accretion problematic, clouds characterisation and simulation, certification rules.
	10.00	Coffee Break
	10.20	Contributions by participants
	13.00	Lunch
	14.30	Visit to Icing Wind Tunnel, visit of particle sizing and liquid water content Instrumentation laboratory, PIV live demonstration.
	18:30	End of the first Workshop day
	20.30	Social Dinner

Tuesday, April 11th

h	8.00	Keynote Lecture by prof. C. Tropea, Darmstadt Technical University "Multidimensional Particle Sizing Techniques."
	9.00	Contributions by participants
	10:40	Coffee Break
	11.00	Contributions by the PivNet2 partners
	13.00	Lunch
	14:20	Contribution by participants
	16:00	Coffee break
	16:20	Round table discussion
	17:00	End of Workshop

Abstract Submission

All the participants dealing with PIV technique in multi-phase flows, ice accretion and particle sizing techniques are warmly invited to contribute to the workshop with a short (max 20 minutes) presentation of their current work.

Authors should submit a one page abstract in pdf or doc format to the workshop organizers by email. The abstracts will be distributed at the conference.

Registration

Registration to the workshop should be done by sending the Attached Registration form to the Organizing Secretariat. The number of participants will be limited to 50, with a priority to PivNet2 and EWA partners.

The registration fee for the two days workshop, which includes bus transportation from the hotel to the CIRA site, lunch and refreshments, a dinner on Monday evening and a CDROM of the proceedings is 100 € for participant. Please pay the fee in cash at the workshop registration.

Deadline

February 28 th , 2006	Deadline for abstracts and registration
March 10 th , 2006	Notification of acceptance
March 30 th , 2006	Final date for presentation receipt

Organizing Committee

F. De Gregorio, CIRA
email: f.degregorio@cira.it
phone: +39 0823 623721
fax: +39 0823 969272

B. Esposito, CIRA
Email: b.esposito@cira.it
phone: +39 0823 623945
fax: +39 0823 969272

Organizing Secretariat

R. Ciccone, CIRA
Via Maiorise
81043 Capua (CE), Italy
email: r.ciccone@cira.it
Phone: +39 0823 62 3963
Fax: +39 0823 96 9272

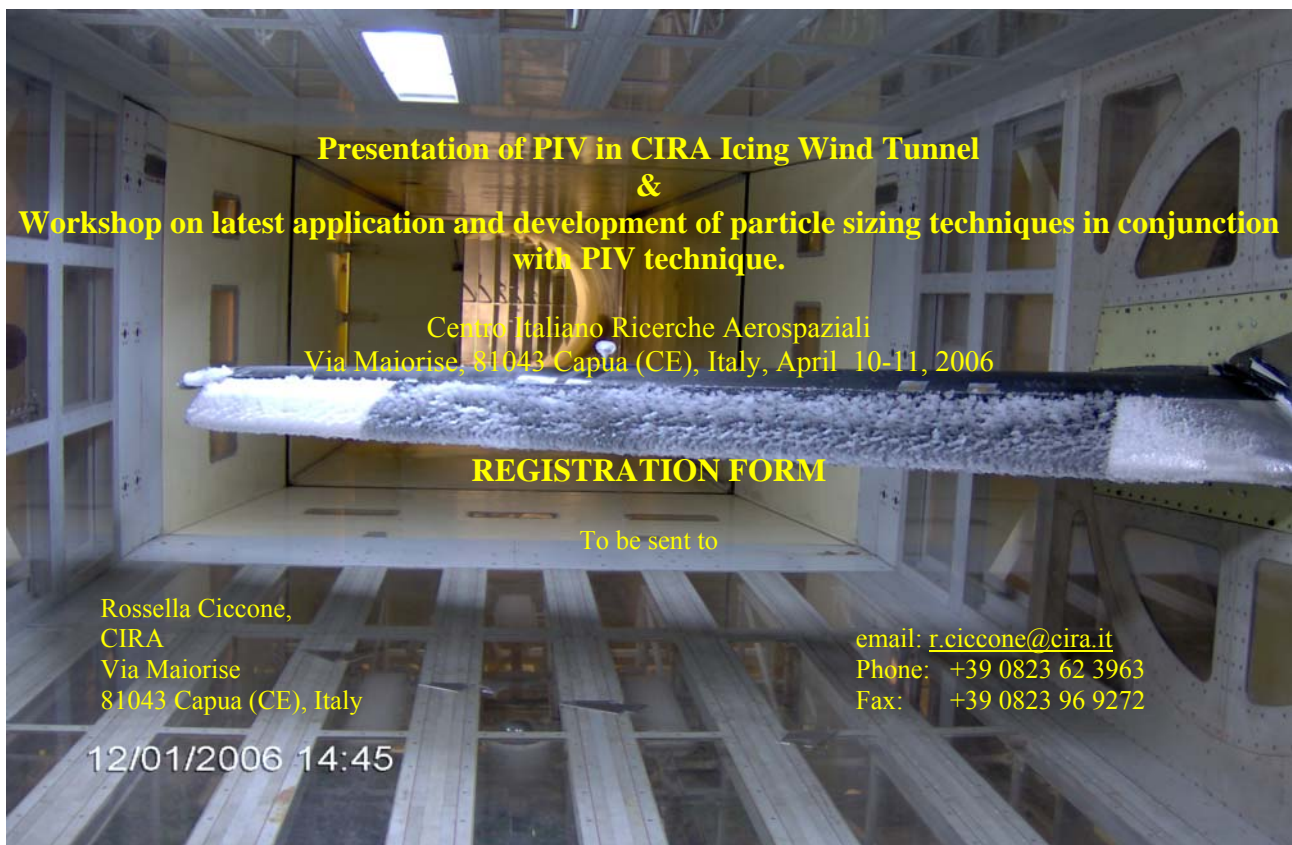
A block of rooms have been reserved at the:

• NOVOTEL ****
Strada Sannitica Km. 22.600 - 81020 Capodrise (CE)
tel.: +39 0823 826553
fax: +39 0823 827238
e-mail: novotel.caserta@accor-hotels.it
single room € 105,00 (special rate)
double room € 135,00 (special rate)

There will be a bus shuttle from the recommended hotel to CIRA in the morning and viceversa in the evening. Bus shuttle is not provided for any other Hotel.
Participants are kindly requested to make their own hotel booking, mentioning the name of the conference to obtain special rate.

How to Reach Us

See <http://www.cira.it>



Before February 28th, 2006

Name _____

Surname _____

Title _____

Organisation _____

Address _____

Phone _____

Fax _____

email _____

Cross one or more entries:

- I am a PivNet2 or EWA partner
- I am NOT a PivNet2 or EWA partner
- I will participate at the dinner on 10th April
- I would like to present a contribution

Paper Title:
