HAIC-HIWC publication update

Prepared by Walter Strapp, Alfons Schwarzenboeck 10-Nov-15





- Before Darwin-2014, it was agreed to poll the HAIC-HIWC team to list all intended publications using the HAIC-HIWC Falcon-20 data.
 - Purpose was to avoid excessive overlap (duplicate publications) and define the areas of focus of the different teams within HAIC-HIWC.
 - This was a negotiated agreement with some compromises by various member of the team.
- Publication list was produced in August 2013, and updated in September 2014 and March 2015 (coinciding with HAIC-HIWC Science Team meetings)
- Strapp circulated an Ocotober 2015 update to the plan, for discussion here at his meeting.



- New member have been added to the HAIC-HIWC Science Team, notably HAIC-HIWC SP3.
- Plans have changed since August 2013, and there have been substantial updates

Review and recommended change to information exchange

- These publication plan updates, approximately every 6 months, are intended to keep you informed about plans for new articles, and let you negotiate participation and co-authorship
 - Strapp and Schwarzenboeck do not 'police' the publication list on your behalf.
- Sometimes new publications may come up quickly, and get submitted between updates
 - New policy recommended: If you are working on an article using HAIC-HIWC data, please forward basic details to Strapp or Schwarzenboeck for distribution via email to the entire HAIC-HIWC team.
 - Same is recommended for conferences, perhaps when abstracts are submitted for conference approval.

Regulatory topics

Topic	Article	Origin- ator	article	lead	co-authors	Comments	update Oct. 2015
Regulatory	**	1HIWC,	In-situ deep convective cloud measurements to assess the new ice crystal icing certification envelope Appendix D", maybe to Journal of Aircraft	Strapp	Schwazenboeck,	Will not be written until all data is complete (Darwin, Cayenne, DC-8? Etc.)	
	5	6HIWC	A review of the development of the new ice crystal icing envelope for engineering design and certification, and the development of concepts of in-flight cloud measurements for assessment.	Strapp	others depending on use of HAIC- HIWC data and final content	decision to split away from the project overview BAMS paper, and transfer	re-confirmed Oct. 2015: Article is well underway. Content is not fully decided, but will mainly emphasize pre-HAIC-HIWC work and review material. Plan to submit to J. Aerospace.
		2HIWC	Flight Deck Observations During Flight in High Ice Water Content Conditions	Ratvasky	Duchanoy, Bourdinot, Harrah, Strapp, Schwarzenboeck, Dezitter, Grandin		re-confirmed Oct. 2015: , UK. AIAA Aviation 2016, 13-17 June, 2016, Washington DC, (written paper)
		3HIWC	Ice Water Content Variations Found in Anvil Clouds of Tropical Mesoscale Convective Systems, and application to engine events	Grzych	other HIWC and HAIC as	an applications to engine events' added to emphasize industry application (Strapp)	need to re-confirm in Oct. 2015
		4HAIC, HIWC	Radar extension of statistics for Appendix D/P	Protat or Strapp	Dezitter, Grandin, HIWC and HAIC as appropriate		re-confirmed in Oct. 2015 (still planned)

Project Overview

Торіс	Article Origin-	article	lead	co-authors	Comments	update Oct. 2015
	# ator					
Project Overview	5HAIC	In-situ cloud microphysical measurements of deep convection for aviation and science		extended list of	BAMS overview article, currently written; content: Climatological context Darwin & cayenne period, satellite analysis of MCS maxima Experimental design, Field campaigns executions, BOM radar, MTSAT, Flight guidance, Alpha performance for RDT & NASA cloud retrievals. Campaign highlights: cockpit observations, F20 weather radar, PSD & IWC findings, W-band radar F20 research radar products. Field catalog?, Conceptual microphysical ideas/ models, cloud	
	57HAIC	Projet HAIC (High Altitude Ice Crystals): Utilisation du Falcon 20 dans le cadre d'un projet international dédié à la sécurité aéronautique.	Schwarze nboek	Leroy, Dezitter, Grandin, Protat, Delanoë, Strapp		changed to: SAFIRE : DES AVIONS AU SERVICE DE LA RECHERCHE EN ENVIRONNEMENT. Caroline Lamorthe, SAFIRE, Agnès Borbon, LISA (now LaMF Alfons Schwarzenboeck LaMP UMR 6016 (Université Blaise-Pascal, CNRS) ; Jean- Christophe Canonici, SAFIRE. La Météorolgie (French journal). Replaces La Météorologie paper,

Cloud Microphysics (1 of 3)

Горіс	Article #	Origin- ator	article	lead	co-authors	Comments	update Oct. 2015
Observational Nicrophysics		BHIWC	On the origin of high altitude, high ice water content regions in oceanic deep convection	Korolev	k, Zipser, Varble, others as appropriate		
		9HIWC, HAIC	Characterization of the dynamical and microphysical (PSD, MMD, IWC, m(D), A(D), etc) properties of HIWC regions and their spatiotemporal distribution using Falcon in-situ and radar data	n-		Korolev 2nd author, CIRA interest	need to reconfirm in Oct. 2015
	1	2HIWC, HAIC	phase convective environment: What	Schwarze n- boeck		CIRA interest	title and author list change Oct. 2105 Initiation and evolution of ice in mixed phase convective environment: Measurement of droplets and small id crystals in high IWC. Combined use of CDP and 2D-S probes (F20 Cayenne data). D. Leroy, G. Febvre, P. Coutris A. Schwarzenboeck,& contributing scientists from HAIC-HIWC?
	7	7HAIC	Ice Crystal Sizes in High Ice Water Content Clouds. Part 2: Median Mass Diameter Statistics in Tropical Convection Observed within HAIC/ HIWC.	Leroy	Fontaine, Schwarzenboec k, Strapp, Korolev, McFarquhar, Dupuy, Gourbeyre, Lilie, Protat, Delanoe, Dezitter and Grandin.		new title, draft available, not yet submitted, probably JOAT

Cloud Microphysics (2 of 3)

Tonic	Article Origin-	article	lead	co-authors	Comments	update Oct. 2015
Торіс	# ator		leau	co-autnors	Comments	
Observationa I	16HAIC	Mass-diameter relationships constrained from ice particle imagery and absolute IWC	Coutris	Leroy, Schwarzenboeck,		re-confirmed in Oct. 2015. Authorship lead changed to Coutris
Microphysics		data (IKP) as well as cloud radar reflectivities		Delanoe, Protat, Korolev, Strapp, McFarquhar, other HAIC and HIWC scientists as appropriate		
	11 HAIC	The dynamical characteristics of HIWC regions and the link to the microphysical processes	Delanoë	Strapp, Grzych, other HAIC and HIWC as appropriate	proposed to include material from withdrawn article #23 regarding vertical profiles of radar reflectivity.	
	78HAIC	Ice Crystal Sizes in High Ice Water Content Clouds. Part 1: Mass-Size Relationships Derived from Particle Images and TWC for Various Crystal Diameter Definitions and Impact on Median Mass Diameter.	LeRoy	E. Fontaine, A. Schwarzenboeck, J. W. Strapp		new title Oct. 2015: Submitted to JOAT. (in review process)
	79HAIC	and morphology from merged Darwin & Cayenne high IWC datasets in tropical convection.	LeRoy	Coutris, Febvre, Fontaine, Schwarzenboeck, Strapp, Korolev, McFarquhar, Lilie, Protat, Delanoe, Dezitter ,Grandin, & other contributing scientists from HAIC-HIWC		new title Oct. 2015
	14 HAIC	Relative humidity inside and in the vicinity of deep convective clouds	DLR	Korolev, HAIC and HIWC as appropriate		need to re-confirm in Oct. 2015

Cloud Microphysics (3 of 3)

Topic	Article Origin-	article	lead	co-authors	Comments	update Oct. 2015
lopio	# ator		louu			
Observationa	a 28HIWC	The representation of ice cloud size distributions as a		HIWC and HAIC as appropriate		title change Oct. 2015: Zhu, S., G.M. McFarquhar, W. Wu, A. Schwarzenboeck,
Microphysics	3	function of meteorological and cloud conditions using observations from convective core anvils and other regions in tropical cloud systems				 A.V. Korolev, J.W. Strapp and D. Leroy, 2016: The dependence of ice cloud size distributions represented as gamma functions on meteorological and cloud conditions: Results from the High Ice Water Content Campaign. J. Atmos. Sci., planned submission
		Development and implementation of mesoscale model parameterizations of single-particle properties and fallout using observations from tropical cloud systems	ar	Zhu, Korolev, Schwarzenboeck, Strapp, Leroy, Varble and Zipser		title change Oct. 2015: Development and implementation of model parameterizations for ice cloud single-scattering and fallout using observations from the High Ice Water Content Campaign. To submit to JAS 2016
	58HIWC	Analysis of morphologies of ice crystals to build a database for a development of empirical habit classification scheme: A comparison between tropical and mid- latitude ice clouds		McFarquhar, Schwarzenboeck, Korolev, Leroy, and Strapp		new title Oct. 2015: JGR intended
	13HAIC	Microphysical findings in convection cores of A340 measurement data post-processed with m(D) relations and Robust probe efficiencies retrieved within HAIC.		Grandin, Dezitter, Weber, Schwarzenboeck, Protat, Strapp		need to re-confirm in Oct. 2015
	15HAIC	Interaction of growth mechanisms of ice in tropical deep convection		Schwarzenboeck, Korolev, HAIC and HIWC as appropriate		need to re-confirm in Oct. 2015
	14HAIC	Relative humidity inside and in the vicinity of deep convective clouds		Korolev, HAIC and HIWC as appropriate		need to re-confirm in Oct. 2015

RADAR (1 of 2)

ſ	Торіс	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
		#	ator					
	Radar Studies	22		Comparison between CPOL microphysics and aircraft microphysics	May or Protat	Zipser, other HAIC and HIWC as appropriate		need to re-confirm in Oct. 2015
		25	HAIC	Radar retrievals of HIWC using empirical relationships	Protat	Delanoë, HAIC and HIWC as appropriate		title change Oct. 2015: The Measured Relationship between Ice Water Content and Cloud Radar Reflectivity in Tropical Convective clouds. A. Protat, J. Delanoë, J. W. Strapp, E. Fontaine, D. Leroy, A. Schwarzenboeck, F. Dezitter, A. Grandin, M. Weber. Subm
E		59		Terminal fall speed of ice crystals in deep tropical convective storms from airborne multi-beam Doppler cloud radar observations	Protat	Delanoe, Schwarzenboeck , Strapp, Ratvasky, Lilie (and all other appropriate co- authors)	This work will very likely make use of IKP data to derive Vt-IWC (- T) relationships to develop a parameterization of ice terminal fall speed (including that of graupel) for large-scale models.	New title March 2015. JAMC.
		60	HAIC	RASTA: a 95 GHz radar for cloud studies.	Delanoe	Protat, Vinson, Brett, Caudoux, Bertrand, Pelon, Guignard, Ceccaldi, Schwarzenboeck , Fontaine, possibly US HIWC IKP PIs if we use IKP data to illustrate something: RASTA		New title March 2015: Probably JOAT

RADAR (2 of 2)

Торіс	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
	#	ator					
RADAR STUDIES	61	HAIC	Statistical microphysical properties of tropical deep convective cores using airborne multi-beam Doppler cloud radar observations		, Strapp, Ratvasky, Lilie (and all other appropriate co- authors)	This is the paper where we will describe the Radonvar technique, evaluate it with the IKP data at flight-level, and produce statistical distribution of IWC, Dm, extinction as a function of temperature and / or height.	New title March 2015. Maybe JGR or JAS
	62	HAIC	Simulations of radar reflectivity factors with oblates spheroids approximations; a comparison of retrieved Condensed water content and equivalent radar reflectivity factors	Fontaine	Leroy,Schwarzen boeck, Delanoë, Protat, Dezitter, Grandin, Strapp, Lilie.		New title Oct. 2015. Planned for fall 2015 submission.
	63	HIWC	2014 HAIC/HIWC Flight Campaign: Radar Reflectivity from X-band Weather Radar	TBD	SAFIRE, Harrah, Grzych?, others	Harrah happy to lead or be a co-author	New title Aug. 2013: submitted by Steve Harrah after Aug. 2013 Science Team meeting; needs Oct. 2015 confirmation
	64	HIWC	Comparison of X & W band Radar Reflectivities from the 2014 HAIC/HIWC Flight Campaign	Harrah	Protat, others	5	New title Aug. 2013: submitted by Steve Harrah after Aug. 2013 Science Team meeting; needs Oct. 2015 confirmation

Cloud Modeling (1 of 2)

Торіс	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
	#	ator					
Cloud Modeling	26	HIWC	Using measurements of low radar reflectivity collocated with high ice water content to constrain representation of microphysical processes in cloud-resolving models of deep tropical convection	NASA GISS	HIWC and HAIC as appropriate	used A340 date for two papers at right	Title changed pre-Oct. 2015: High ice water content at low radar reflectivity near deep convection: Part I. Consistency of ir situ and remote-sensing observations with stratiform rain column simulations. Fridlind, Ackerman, Grandin, Dezitter, Weber, Strap
	65	HIWC				see above	Title changed pre-Oct. 2015: High ice water content at low radar reflectivity near deep convection: Part II. Evaluation of microphysical pathways in updraft parcel simulations, 2015. Ackerman, Fridlind, Grandlin, Dezitter, Weber, Strapp, and
	66	HIWC	Investigation of microphysical pathways to high ice water content observed during the HAIC-HIWC campaign using bin microphysics simulations	Fridlind	Ackerman, Korolev, Schwarzenboeck , Leroy, Strapp, et al.		new title Oct. 2015: Journal TBD. 3D simulations planned, details depending or future analysis of recently released data; appropriate author list TBD
	67	HIWC	Use of NASA GPM satellite and HAIC- HIWC in situ data to evaluate tropical stratiform precipitation microphysics in the GISS ModelE GCM	Fridlind	Ackerman, Schwarzenboeck , Leroy, Strapp, Protat, et al.		new title Oct. 2015: if submitted proposa funded; appropriate author list TBD
	68	HIWC	Use of NASA GPM satellite and HAIC- HIWC in situ data to investigate tropical stratiform microphysical pathways	van Lier- Walqui	Ackerman, Fridlind, McFarquhar, Williams, Schwarzenboeck , Leroy, Strapp,	2	new title Oct. 2015: if submitted proposal funded; appropriate author list TBD
	69	HIWC	Use of cloud-resolving models of deep tropical convection to interpret mechanisms and locations of conditions with low radar reflectivity collocated with high ice water content	NASA GISS	Zipser, HIWC and HAIC as appropriate		need to re-confirm in Oct. 2015

Cloud Modeling (2 of 2)

Торіс	Article #	Origin- ator	article	lead	co-authors	Comments	update Oct. 2015
Cloud Modeling	30	HIWC	Model investigations of ice water content and the properties of the updrafts feeding the upper tropospheric ice mass	Varble	Protat, Korolev,	New article inked to article 11 above.	title change Oct. 2015: Factors influencin the evolution of simulated high ice water content regions and comparison with observations from the High Ice Water Content campaign. Varble, Zipser, Strapp Schwarzenboeck, and others if their observational data
	32	HIWC	Evaluation of WRF high resolution simulations of tropical convective systems using in-situ and remote sensing data measured during the 2014 HAIC/HIWC campaign	Varble or Zipser	HIWC and HAIC as appropriate		title change Oct. 2015: Comparison of observed and simulated convective drafts in tropical monsoon mesoscale convective systems during the High Ice Water Content campaign. Stanford, Varble, Zipser, Strapp, Schwarzenboeck, and others if their observational
	70	HIWC	Reducing bulk microphysics parameterization biases using High Ice Water Content field campaign measurements	Varble	Zipser, Strapp, Schwarzenboeck , and others if their observational datasets are used		New title Oct. 2015: Journal TBD.
	33	HAIC	Comparions of LaMP cloud model simulations with observations (especially 95 GHz radar)	Wobrock	HIWC and HAIC as appropriate	title provided by Strapp from Wobrock objectives	need to re-confirm in Oct. 2015
	34	HAIC	Sensitivity studies on ice nucleation rate and aggregation efficiencies	Wobrock	HIWC and HAIC as appropriate	title provided by Strapp from Wobrock objectives	need to re-confirm in Oct. 2015
	35	HIWC	Evaluation and improvement of high ice water content simulations in deep convective storms using the ACCESS model	Franklin	HIWC and HAIC as appropriate		new title Oct. 2015: Controls on phase composition and ice water content in a convection permitting model simulation of a tropical mesoscale convective system. Franklin and Protat. Journal probably QJRMS, to be sumitted early Nov. 2015

Satellite/Nowcasting (1 of 2)

ľ	Торіс	Article #	Origin- ator	article	lead	co-authors	Comments	update Oct. 2015
	Satellite and Nowcasting	36	HIWC	Nowcasting High Ice Water Content in Deep Convective Clouds Using Routinely Available Meteorological Products	Haggerty	HIWC and HAIC as appropriate (see right)		title change Oct. 2016: Development and Verification of a Detection Method for High Ice Water Content Regions. Haggerty, Black, McCabe, Cunning, Minnis, Strapp, Potts. In preparation Sept. 2015. Planned submission to JAMC.
ľ		71	HIWC	Climatology of HIWC conditions over North America	Haggerty	Black	No use of HAIC-HIWC data.	New title Oct. 2015: . To be submitted to JAMC. Not a HAIC-HIWC article.
		36	HIWC	Evaluation of satellite, radar, and model products for use in HIWC nowcasting (tentative title)	Haggerty	Black, Minnis/Ngyuen/P alikonda, Strapp, Potts, Grandin		New title Oct. 2015: In preparation Sept. 2015. Planned submission to JAMC.
2		37	HIWC	Development of a High Ice Water Content Icing Probability Index	NASA Langley	HIWC and HAIC as appropriate (see right)		title change Oct. 2016: Minnis, Yost, Bedka, Spangenberg, Palikonda, Nguyen, Strapp, and Grandin/Dezitter, 2015: A prototype method for diagnosing high ice water content probability using satellite imager data. J. Atmos. Oceanic Tech., in preparation.
		41	HIWC	Comparisons of deep convective cloud microphysical properties from in situ measurements and satellite retrievals	NASA Langley	HIWC and HAIC as appropriate		need to re-confirm in Oct. 2015
1		72	HIWC	Satellite-derived cloud property datasets for High Ice Water Content field experiments	Nguyen	Minnis, Bedka, Palikonda, Yost, Spangenberg, and Chee		new title Oct. 2015: Geosci. Data Jour., in preparation.
2		73	HIWC	Evaluation of satellite-derived ice water content profiles using in situ and RASTA data.	Yost	Smith, Minnis, Spangenburg, Nguyen,Protat, and Strapp		new title Oct. 2015: Atmos. Meas. Tech., in preparation
		74	HIWC	Relationships between overshooting deep convective cloud tops and high ice water content	Bedka	Yost,Spangenber g, Minnis, Protat, and Strapp		new title Oct. 2015: . J. Appl. Meteor. Climatol., in preparation.
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Satellite/Nowcasting (2 of 2)

opic	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
-	#	ator					
atellite and lowcasting	38	HAIC	General paper on satellite detection of HIWC	Defer	Delanoë, Parol, Protat, other		title change pre-Oct. 2015: Overview of the HAIC Space-Borne Observation and
-					HIWC and HAIC as appropriate		Nowcasting of High Ice Water Content Regions Sub-Project and Mid-Term Results. Brenguier, De Laat, Delanoë, Dezitter, Faivre, Gounou, Grandin, Guignard, Meirink, Moisselin, Paro
	39	HAIC	CloudSat-CALIPSO detection of HIWC	Guignard or Ceccaldi	Delanoë, Protat, HAIC and HIWC as appropriate		need to re-confirm in Oct. 2015
	40	HAIC		Meteo France	HIWC and HAIC as appropriate; collaborate with HIWC nowcasting if possible		need to re-confirm in Oct. 2015, possibly same as title #59
	75	HAIC	The Use of RDT Nowcasting Tool for Detecting Convective Areas Associated with High Ice Water Content during HAIC/HIWC Field Campaign	Gounou	Moisselin, Autones, Levaillant, Brenguier, Defer, Faivre		new title pre-Oct. 2015: SAE Technical Paper 2015-01-2124, 2015, doi:10.4271/2015-01-2124.
	76	HIWC	Studies of Cloud Characteristics Related to Jet Engine Ice Crystal Icing Utilizing Infrared Satellite Imagery	Grzych	Tritz,Mason, Bravin, Sharpsten	Minimal use of HAIC- HIWC data	SAE Technical Paper 2015-01-2086, 2015 doi:10.4271/2015-01-2086. SAE 2015 International Conference on Icing of Aircraft, Engines, and Structures, Prague, Czech Republic. June 2015.

Microphysical Instruments (1 of 1)

Topic	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
	#	ator					
Microphy	vsic 42	2 HIWC	TWC measurements of deep tropical	Strapp,	Schwarzenboeck	coordinate with NRC	need to re-confirm in Oct. 2015
al			convection using a new isokinetic	Lilie, or			
Instrume	nts		evaporator"	Ratvasky			
	43	3 HIWC	Robust Probe measurements compared to	Strapp or	Schwarzenboeck	Similar title submitted	re-confirmed Oct. 2015.
			IKP and other data to document the	Lilie	8	by Schwarzenboeck,	
			Robust Probe's collection efficiency in		and HAIC as	with Lilie as lead.	
			order to validate previously acquired data		appropriate	Merged here.	
			taken using the Robust Probe		appropriate	merged here.	
	1		Evaluation of the IKP probe's performance	Lilie	Ratvasky, Lilie,	coordinate with NRC	title change Oct. 2015: Isokinetic TWC
	4			LIIIE	Schwarzenboeck		
			in natural icing				Evaporator Probe Development and
					, HIWC and HAIC		Performance Testing for the HAIC-HIWC
					as appropriate		Darwin 2014 and Cayenne 2015 Field
							Campaigns, Lyle Lilie, J. Walter Strapp ,
							Thomas Ratvasky, Craig Davison, Chris
							Dumont ; AIAA Aviation 2016,
	4	5 HAIC	Possible publication on Nephelometer	Airbus	HAIC and HIWC		need to re-confirm in Oct. 2015
			capability improvement		as appropriate		
	40	6 HAIC	Improvements of measurements of size	Esposito	HAIC and HIWC	New article suggested	need to re-confirm in Oct. 2015
			and concentration of small ice particles,		as appropriate	by Strapp for Esposito	
			and measurements of the phase			lead.	
			composition of clouds with the new HSI				
			probe				
,	48	BHIWC	Possible technical report on performance	NRC	Lilie, Ratvasky,		need to re-confirm in Oct. 2015
			aspects of IKP		Strapp, HAIC and		
					HIWC as		
					appropriate		
		9 HAIC	lcing detection based on electric	Chazottes	HAIC and HIWC		need to re-confirm in Oct. 2015
			phenomena (tribo electricity, induction),	8	if appropriate		
				, Laianue	n appropriate		
			1	1			1

OTHER (1 of 1)

Topic	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
	#	ator					
Applications	50	HIWC	Comparisons of cloud data to NASA PSL	NASA	HIWC and HAIC		need to re-confirm in Oct. 2015
to Tunnel			simulation		contributors		
Simulations							
	51	HAIC	Comparison ice crystals generated in DGA	DGA	HAIC and HIWC		need to re-confirm in Oct. 2015
			test facility with those collected during the		as appropriate		
			2014 Darwin Field Campaign				
	52	HAIC	Comparison of simulated glaciated and	TUBS	HAIC and HIWC		need to re-confirm in Oct. 2015
			mixed phase conditions in TU BS icing		as appropriate		
			wind tunnel with the Falcon-20 Darwin				
			data				
	8	8		8	8	8	
Topic	Article	Origin-	article	lead	co-authors	Comments	update Oct. 2015
	#	ator				Comments	
Topic Other	#	ator	Particle trajectories around the Falcon-20	Bidwell	HIWC and HAIC	Comments	cancelled due to retirement (as per Tom
	# 53	ator HiWe	Particle trajectories around the Falcon-20 aircraft	Bidwell (NASA)	HIWC and HAIC contributors	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15)
	# 53	ator	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice	Bidwell	HIWC and HAIC contributors HIWC and HAIC	Comments	cancelled due to retirement (as per Tom
	# 53	ator HiWe	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion	Bidwell (NASA)	HIWC and HAIC contributors	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15)
	# 53 54	ator Hiwe HAIC	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion package	Bidwell (NASA) INCAS	HIWC and HAIC contributors HIWC and HAIC contributors, if any	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15) need to re-confirm in Oct. 2015
	# 53 54	ator HiWe	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion package Ice particles trajectory, impingement and	Bidwell (MASA) INCAS ONERA	HIWC and HAIC contributors HIWC and HAIC contributors, if any C.Tropea,	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15)
	# 53 54	ator Hiwe HAIC	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion package	Bidwell (MASA) INCAS ONERA	HIWC and HAIC contributors HIWC and HAIC contributors, if any C.Tropea, D.Raps, HAIC	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15) need to re-confirm in Oct. 2015
	# 53 54	ator Hiwe HAIC	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion package Ice particles trajectory, impingement and	Bidwell (MASA) INCAS ONERA	HIWC and HAIC contributors HIWC and HAIC contributors, if any C.Tropea,	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15) need to re-confirm in Oct. 2015
	# 53 54	ator Hiwe HAIC	Particle trajectories around the Falcon-20 aircraft Numerical simulations of the INCAS ice crystal trajectory and ice accretion package Ice particles trajectory, impingement and	Bidwell (MASA) INCAS ONERA	HIWC and HAIC contributors HIWC and HAIC contributors, if any C.Tropea, D.Raps, HAIC	Comments	cancelled due to retirement (as per Tom Ratvasky, 21-Oct-15) need to re-confirm in Oct. 2015

End of Presentation

Merci, Thank You

