

Workshop Program and Abstracts



III IAA LATIN AMERICAN CUBESAT WORKSHOP

3-7 December 2018

Ubatuba, Brazil

Organization and Institutional Support



Organizing Committee

General chairs

Chantal Cappelletti, PhD, University of Nottingham, IAA
Eduardo Augusto Bezerra, PhD, UFSC

Program chair

Leonardo Slongo, Dr., UFSC

Local arrangements

Cândido Osvaldo de Moura
Carlos Alves

Technical Support

Nataliia Kuriacha and Vladimir Taftay, Brasilia

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Ediz Cetin, Macquarie University, Australia
Eduardo Augusto Bezerra, UFSC, Brazil
Fernando Aguado Agelet, Universidad de Vigo, Spain
Filippo Graziani, IAA/GAUSS, Italy
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Luigi Dilillo, CNRS / LIRMM, France
Luis Zea, University of Colorado, Guatemala
Mengu Cho, Kyushu Institute of Technology - Kyutech, Japan
Mike Swartout, St. Louis University, USA
Mikhail Ovchinnikov, Keldysh Institute of Applied Mathematics, Russia
Rainer Sandau, German Aerospace Center (DLR), Germany
Renato Alves Borges, UnB, Brazil
Riccardo Bevilacqua, University of Florida, USA
Robert J. Twiggs, Morehead State University, USA
Ronnie Nader, Ecuadorian Civilian Space Agency (EXA), Ecuador
Shinichi Nakasuka, University of Tokyo, Japan
Simone Battistini, UnB, Brazil
Vladislav Solovey, Kosmotras/GAUSS, Russia
Walter Abrahão dos Santos, INPE, Brazil

Welcome message

Following up its successful 2014 and 2016 editions held in Brasilia and Florianopolis, respectively, the 3rd IAA-LACW will keep the focus on topics related to CubeSat technology, providing a forum for scientists and engineers to discuss their achievements and cutting edge findings. Considering the increasing interest in CubeSat activities, and the recent successful Cubesat missions in Latin America, the International Academy of Astronautics is organizing in 2018 a workshop where participants from industry and academia will have the opportunity to share their professional knowledge, enlarging their networks in the subject. Some of the most outstanding professionals in CubeSat missions and applications will attend the workshop giving special talks and lectures.

The city of Ubatuba, located in the state of Sao Paulo, is a trend summer destination. With a population of around 90,000 people, the city is known for having a very high quality of life.

Ubatuba is a home to the Ubatuba-Sat initiative. During the symposium, the temperature is expected to be in the range between 25 °C and 35 °C (77 F and 95 F).

The organizing committee would like to thank everyone for the time spent, and for the volunteering, which made possible to achieve this third edition of the workshop.

Ubatuba, 3rd December 2018.

Chantal Cappelletti
Eduardo Augusto Bezerra

WORKSHOP PROGRAM AND ABSTRACTS EDITION

Chantal Cappelletti
Eduardo Augusto Bezerra

Monday, 3rd December 2018

07:00- **Registration**
Lobby – Ubatuba Theatre (Teatro Municipal de Ubatuba)

---Tutorials---
(Chair Dr. Ramon Mayor - IFSC)
Frade room 07:30-12:30

07:30-09:00 **Tutorial 1**
“An Introduction to SDR and GNU Radio”
Ramon Mayor, IFSC

09:00-10:30 **Tutorial 2**
“Amateur Radio and Space Communications”
Edson W. Pereira, PY2SDR

10:30-11:00 **Coffee-break**
Brava room

11:00-12:30 **Tutorial 3**
“A Short Introduction to CubeSats and their Systems Engineering”
Walter Abrahão Dos Santos, INPE

12:30-13:30 **Lunch**

Monday, 3rd December 2018

13:30-13:55 **Opening ceremony**
Auditorium

---Keynotes---

(Chair Dr. Eduardo Augusto Bezerra - UFSC)
Auditorium 13:55-15:30

13:55-14:00 ***“Introduction to the 3rd IAA Latin American CubeSat Workshop”,***
Organizing Committee

14:00-14:45 **Keynote – *“International Academy of Astronautics and CubeSat activities”***
Dr. Chantal Cappelletti, IAA Member, Italy/UK

14:45-15:30 **Keynote – *“An overview of cubesats and opportunities for Latin America”***
Dr. Rodrigo Leonardi, Directorate of Satellites, Applications and Development, Brazilian Space Agency, Brazil

15:30-16:00 **Coffee-break**
Brava room

Session 1 – Assembly, Integration, Test and Verification

(Chair Dr. Chantal Cappelletti - University of Nottingham)
Auditorium 16:00-17:30

16:00-16:15 **IAA-BR-18-01-01**
DESIGN AND IMPLEMENTATION OF A GEOMAGNETIC FIELD
SIMULATOR FOR SMALL SATELLITES
(*Eber Huanca, Patricio Arapa and Josue Contreras*)

16:15-16:30 **IAA-BR-18-01-02**
ENERGY POTENTIAL EVALUATION OF A THERMOELECTRIC
HARVESTING MODULE IN CUBESATS
(*Thiago Martins, Andre Ostrufka, Alessandro Cezario De Borba, Guilherme Lenfers Dornelles, Anderson Wedderhoff Spengler, Jorge Luiz Goes Oliveira and Kleber Vieira de Paiva*)

16:30-16:45 **IAA-BR-18-01-03**
HIGH-LEVEL DEVELOPMENTS IN SPACE SYSTEMS ENGINEERING
OF THE RAIOSAT PROJECT
(*Graziela Fernanda de Souza Maia, Elaine De Souza Ferreira de Paula, Mateus de Oliveira Pereira, Lazaro A. P. Camargo, Kleber Pinheiro Naccarato and Walter Abrahão Dos Santos*)

Monday, 3rd December 2018

- 16:45-17:00 IAA-BR-18-01-04**
PROJECT AND VALIDATION OF A MAGNETIC FIELD GENERATOR
FOR MECSE CUBESAT UNDER CONTROLLED ENVIRONMENT
(Paulo Ferreira, Anna Guerman, António Espírito Santo, Paulo Figueiredo and André João)
- 17:00-17:15 IAA-BR-18-01-05**
DEVELOPMENT, LABORATORY TESTS AND FLIGHT RESULTS OF
THE TNS-0 #2 NANOSATELLITE MISSION
(Mikhail Ovchinnikov, Danil Ivanov, and Oleg Pantsyrnyi)
- 17:15-17:30 IAA-BR-18-01-06**
SATELLITE DEPLOYMENT FROM JAPANESE “KIBO” MODULE ON
THE ISS
(Masa Nagasaki)
- 20:00 Welcome Cocktail Reception**
Brava room

Tuesday, 4th December 2018

- 08:00- Registration**
Lobby – Ubatuba Theatre (Teatro Municipal de Ubatuba)

---Keynotes---

(Chair Dr. Livio Gratton - CONAE)
Auditorium 09:00-10:15

- 09:00-09:30 Keynote – “NanoStar project”**
Dr. Anna Guerman, Universidade da Beira Interior,
Russia/Portugal
- 09:30-10:15 Keynote – “NASA's Lunar IceCube - Engineering Challenges with
the First Generation of Interplanetary CubeSats”**
Dr. Benjamin K. Malphrus, Morehead State University, USA
- 10:15-10:45 Coffee-break**
Brava room

Tuesday, 4th December 2018

Session 2 – Structure and Thermal Design
(Chair Dr. Anna Guerman, Universidade da Beira Interior)
Auditorium 10:45-12:00

- 10:45-11:00 IAA-BR-18-02-01**
3U GENERIC PLATFORM FOR UNIVERSITY PURPOSES
(João Paulo Resende Monteiro, Maria Cecilia Pereira and Marcelo Greco)
- 11:00-11:15 IAA-BR-18-02-02**
NANOSATELLITE BATTERY HEATER CONTROL BASED ON BATTERY VOLTAGE AND TEMPERATURE FOR ENERGY HARVESTING MAXIMIZATION
(Edemar Morsch Filho, Sara Vega Martinez, Leonardo Kessler Slongo, Eduardo Augusto Bezerra, Talita Sauter Possamai, and Vicente Paulo Nicolau)
- 11:15-11:30 IAA-BR-18-02-03**
ADAPTATION OF LOW-COST OPEN SOURCE DESKTOP 3D-PRINTER FOR ADDITIVE MANUFACTURING OF HIGH PERFORMANCE THERMOPLASTIC FOR SPACE APPLICATION
(Cristian Vendittozzi, Manuel Barcelos, Paolo Gessini, Giancarlo Santilli, and Ramon Bevilacqua)
- 11:30-11:45 IAA-BR-18-02-04**
APPLICATION OF THE SDRE TECHNIQUE BASED ON JAVA IN A CUBESAT ATTITUDE AND ORBIT CONTROL SUBSYSTEM
(Alessandro Gerlinger Romero and Luiz Carlos Gadelha de Souza)
- 11:45-12:00 IAA-BR-18-02-05**
ANALYSIS OF HEAT PIPES FOR THERMAL CONTROL IN NANOSATELLITES
(Félix Dal Pont Michels Junior and Kleber Vieira de Paiva)
- 12:00-14:00 Lunch**

---Keynotes---

(Chair Ms. Marcia Alvarenga dos Santos - INPE)
Auditorium 14:00-14:30

- 14:00-14:30 Keynote – “The international legal regime relating to space activities and space small objects”**
Dr. Tatiana Ribeiro Viana, Sapienza University of Rome

Tuesday, 4th December 2018

Session 3 – Regulations and Space Law

(Chair Dr. Tatiana Ribeiro Viana, Sapienza University of Rome)
Auditorium 14:30-15:00

- 14:30-14:45 IAA-BR-18-03-01**
ITAR AND EAR - HOW THE DEVELOPMENT OF CUBESATS IS HELPING LATIN AMERICA TO OVERCOME THIS BARRIERS
(Rodrigo Pereira, Marcelo Berejuck and Eduardo Bezerra)
- 14:45-15:00 IAA-BR-18-03-02**
FIVE REASONS WHY CUBESATS DESERVE MORE ATTENTION: LAW AND SCIENCE OVERVIEW
(Marcia Alvarenga dos Santos, Marcelo Lopes de Oliveira e Souza, and Olavo de Oliveira Bittencourt Neto)

---Roundtable---

(Chair Dr. Benjamin K. Malphrus - Morehead State University)
Auditorium 15:00-16:00

- 15:00-15:10 “Amateur Radio and Space Communications”**
Edson W. Pereira, PY2SD
- 15:10-15:20 “Space debris mitigation measures (sustainability of cubesat systems)”**
Marcia Alvarenga dos Santos, INPE
- 15:20-15:30 “The space governance of small satellites”**
Tatiana Ribeiro Viana, Sapienza University of Rome
- 15:30-16:00 Questions and Answers**
- 16:00-16:30 Coffee-break**
Brava room

Tuesday, 4th December 2018

Session 4 – Educational Mission Management

(Chair Dr. Maria Cecilia Pereira de Faria - UFMG)
Auditorium 16:30-17:15

16:30-16:45 IAA-BR-18-04-01

Cor-E SAT

(Martin Ezequiel Molina, Federico Collado, Hernan Adrian Paez, Talia Bessone, Alejandro Muzio and Marco Alvarez Reyna)

16:45-17:00 IAA-BR-18-04-02

ARANDU, AN ENGINEERING PROJECT APPLIED TO HIGH SCHOOL

(Felipe Carvalho, Cláudia Celestino, Leandro Baroni, Mirtes Junior, Tiago Brito and Mariana Xavier)

17:00-17:15 IAA-BR-18-04-03

CTEE – AN APPROACH FOR DEVELOPING SPACE ENGINEERING PRACTICES WITH NANOSATELLITES IN BRAZIL

(Jeanne S S Lima, Eduardo Bürguer, Lazaro A. Pires Camargo, Italo Pinto Rodrigues, Daniel Nono, Mateus Oliveira, Auro Tikami, Walter Abrahão Dos Santos, Christopher S. Cerqueira, Herbi J. P. Moreira, Felipe O. Tavares, Plínio I. G. Tenório and Jenny C. R. Asencio)

Session 5 – Telecommunications, Tracking and Command

(Chair Dr. Ramon Mayor - IFSC)

Auditorium 17:15-17:45

17:15-17:30 IAA-BR-18-05-01

SatNOGS: TOWARDS A MODERN, CROWD SOURCED AND OPEN NETWORK OF GROUND STATIONS

(Matthaios Papamatthaiou, Ilias Daradimos, Manolis Surligas, Pierros Papadeas, Agisilaos Zisimatos, George Vardakis, Fredy Damkalis, Vasilis Tsiligiannis, Nestoras Sdoukos, Kostis Triantafillakis and Nikos Karamolegkos)

17:30-17:45 IAA-BR-18-05-02

ADDRESSING SMALL SATELLITE COMMUNICATIONS ISSUES

(Daniel Oltrogge, Haroon Rashid and Gabriel Yamato)

20:00

Gala Dinner

Ubatuba Palace Hotel

Wednesday, 5th December 2018

08:00- **Registration**
Lobby – Ubatuba Theatre (Teatro Municipal de Ubatuba)

---Keynotes---

(Chair Dr. Maria Cecilia Pereira de Faria - UFMG)
Auditorium 09:00-10:30

09:00-09:45 **Keynote – “TBD”**
Dr. Fernando Aguado Agelet, University of Vigo, Spain

09:45-10:30 **Keynote – “TBD”**
Dr. Livio Gratton, CONAE, Argentina

10:30-11:00 **Coffee-break**
Brava room

Session 6 – Space Environment

(Chair Dr. Mikhail Ovchinnikov, KIAM, Russia)
Auditorium 11:00-11:30

11:00-11:15 **IAA-BR-18-06-01**
SPACE PROJECT OF RUSSIAN - AZERBAIJAN SMALL SATELLITE
FOR RADIATION MONITORING AND UPPER ATMOSPHERE
CONTROL
(Vladislav Osedlo, Michael Panasyuk, Parviz Abdullaev, Vitaliy Bogomolov, Anatoliy Iyudin, Ruslan Gasanov, Vladimir Kalegaev, Tarlan Mammadzada, Vasilij Petrov, Michael Podzolko, Elena Popova, Rovshan Rustamov, Adalyat Samedov, Hikmat Seyidov, Sergey Svertilov and Ivan Yashin)

11:15-11:30 **IAA-BR-18-06-02**
THE EFFECT OF SPACE WEATHER ON PICOSATELLITES VIA
NUMERICAL SIMULATIONS: THE POLAR WIND
(Jessica Luz, Rodrigo Miranda, Alisson Louly, and Sarah da Costa)

Session 7 – On Board Systems (OBC, EPS, P/L)

(Chair Dr. Fernando Aguado Agelet - University of Vigo)
Auditorium 11:30-12:15

11:30-11:45 **IAA-BR-18-07-01**
ENABLING DEEP-SPACE CUBESAT MISSIONS THROUGH
STATE-OF-THE-ART RADIATION-HARDENED TECHNOLOGIES
(Lucas Matana Luza, Cezar Antônio Rigo, Elder Dominghini Tramontin, Victor Martins, Sara Vega Martínez, Leonardo Kessler Slongo, Laio Oriel Seman, Luigi Dilillo and Eduardo Bezerra)

Wednesday, 5th December 2018

11:45-12:00 IAA-BR-18-07-02
OPEN SOURCE AND OPEN HARDWARE POCKETQUBE
SUBSYSTEMS
*(Ilias Daradimos, Manolis Surligas, Matthaïos Papamathaiou, Agisilaos Zissimatos and
Pierros Papadeas)*

12:00-12:15 IAA-BR-18-07-03
NEW PAYLOADS IN SCIENCE FOR NEW PERSPECTIVES IN
UNIVERSITY SATELLITES
*(Jorge Arturo Heraud, Sayda Mujica, Rafael Vilchez, Neils Vilchez, Cesar Celis, Carlos
Busquets, Alvaro Bueno, Cesar Vilcherrez and Adriano Li)*

12:15-14:00 Lunch

---Panel---

(Chair Dr. Rodrigo Leonardi - AEB)

Auditorium 14:00-16:00

14:00-14:10 "The SERPENS-II mission", Dr. Kleber de Paiva, UFSC
14:10-14:20 "Mission status at UnB", Dr. Giancarlo Santilli, UnB
14:20-14:30 "Mission status at UFMG", Dr. Maria Cecilia Pereira, UFMG
14:30-14:40 "Mission status at UFSM", Dr. Marcelo Serrano Zanetti, UFSM
14:40-14:50 "Mission status at UFABC", Dr. Antonio Gil Brum, UFABC
14:50-15:10 "Payload X and FloripaSat", Dr. Leonardo Slongo, UFSC
15:10-15:30 "Samanaú Platform: affordable data collecting with satellite
transmission", Mr. Moisés Souto, IFRN, and Dr. Manoel Carvalho,
INPE
15:30-16:00 Questions and Answers
16:00-16:30 Coffee-break
Brava room

---Meeting---

(Chair Dr. Chantal Cappelletti - IAA WG 4.17)

IAA Working Group 4.17 - Space Systems for Biomedical Research

Auditorium 16:30-18:00

---Meeting---

(Chair Dr. Kleber de Paiva, UFSC - SERPENS II Coordinator)

Closed-door meeting, just for SERPENS-II project coordinators.

Frade room 16:30-18:00

Thursday, 6th December 2018

08:00- **Registration**
Lobby – Ubatuba Theatre (Teatro Municipal de Ubatuba)

---Keynotes---

(Chair Dr. Renato Alves Borges - UnB)
Auditorium 09:00-10:30

09:00-09:30 **Keynote – “THE NANOSATC-BR PROGRAM; ITS GENESIS, PIONEERING, RESULTS AND CONSEQUENCES”**
Dr. Otávio Durão, INPE, Brazil

09:30-10:15 **Keynote – “INVENTION, SENSING, SIMULATION AND TESTING OF THE ATTITUDE AND ORBITAL MOTION CONTROL FOR CUBESATS”**
Dr. Mikhail Ovchinnikov, KIAM, Russia

10:15-10:45 **Coffee-break**
Brava room

Session 8 – Mission Applications

(Chair Dr. Otávio Durão - INPE)
Auditorium 11:00-12:00

11:00-11:15 **IAA-BR-18-08-01**
CUBESAT APPLICATIONS FOR MOVING OBJECTS TRACKING AND ENVIRONMENTAL MONITORING
(Hsin-Chia Lin)

11:15-11:30 **IAA-BR-18-08-02**
SAIL SAILS MISSION
(José Wagner Garcia, Otavio Durão, José Sergio de Almeida and Valdemir Carrara)

11:30-11:45 **IAA-BR-18-08-03**
BiomeSat: A PROPOSAL FOR FOREST HEALTH ESTIMATION IN BRAZIL USING NANOSATS
(Manoel Cardoso, Kleber Naccarato, Ronan Chagas, Candido Moura, Luiz Aragão and Walter A. Dos Santos)

11:45-12:00 **IAA-BR-18-08-04**
USE OF NANOSATS AND CUBESATS FOR MONITORING OF SPACE RADIATION AND ELECTROMAGNETIC TRANSIENTS IN THE MULTI-SATELLITE PROJECT UNIVERSAT–SOKRAT
(Sergey Svertilov, Michael Panasyuk, Vitaliy Bogomolov, Garik Karymovich Garipov, Anatoliy Iyudin, Vladimir Kalegaev, Pavel Klimov, Vladislav Osedlo, Vasiliy Petrov, Elena Popova, Michael Podzolko, Ilya Rubinstein, Vladimir Ivanovich Tulupov and Ivan Yashin)

12:00-14:00 **Lunch**

Thursday, 6th December 2018

Session 9 – Attitude Determination and Control Systems

(Chair Dr. Mikhail Ovchinnikov - KIAM)

Auditorium 14:00-16:00

- 14:00-14:15 IAA-BR-18-09-01**
DETERMINATION OF CUBESAT'S DECAY IMPLEMENTING PERIODIC VARYING BALLISTIC COEFFICIENT
(Jhonathan Murcia Piñeros, Walter dos Santos, and Antonio Prado)
- 14:15-14:30 IAA-BR-18-09-02**
EMBEDDED STAR CATALOG FOR AUTONOMOUS STAR TRACKERS
(Karoline Carvalho Bürger, Pedro Shinzato Camelo, Gabriel Pacianotto Gouveia, and Fabio de Oliveira Fialho)
- 14:30-14:45 IAA-BR-18-09-03**
ATTITUDE CONTROL SYSTEM STUDY FOR AN UNIVERSITY CUBESAT DEDICATED TO MEASUREMENT OF THE EARTH'S MAGNETIC FIELD
(Cauê Garcia Menegaldo, Fábio de Oliveira Fialho, Eduardo Janot Pacheco, and Felipe Miguel Pait)
- 14:45-15:00 IAA-BR-18-09-04**
NAVIGATION SYSTEM SIMULATOR FOR SMALL SATELLITE
(Eduardo Lacerda Campos, Samaherni Moraes Dias, and Kurios Iuri Pinheiro de Melo Queiroz)
- 15:00-15:15 IAA-BR-18-09-05**
HIL TESTING OF THE B-DOT ATTITUDE CONTROL LAW
(Igor Seitti Kinoshita Ishioka, Lucas Meneses Bandeira Da Silva, Renato Alves Borges, Simone Battistini, Chantal Cappelletti, Dmitry Roldugin, and Mikhail Ovchinnikov)
- 15:15-15:30 IAA-BR-18-09-06**
SMALLSAT HIGH-ENERGY MISSIONS USING ABLATIVE PULSED PLASMA THRUSTERS
(Paolo Gessini, Giancarlo Santilli, Cristian Vendittozzi, Gabriela Cunha Possa, José Leonardo Ferreira, Lui Txai Calvoso Habl, Rodrigo Intini Marques, Pedro Luiz Kaled da Cás, and Stephen Bernard Gabriel)
- 15:30-15:45 IAA-BR-18-09-07**
xCoreLab: LABORATORY OF SIMULATION AND CONTROL OF AEROSPACE SYSTEMS
(Renato Alves Borges, Simone Battistini, Chantal Cappelletti, Rodrigo Cardoso da Silva, Fernando Cardoso Guimares, Marina Andrade Lucena Holanda, Letícia Câmara Van der Ploeg, and Lukas Lorenz de Andrade)
- 15:45-16:00 IAA-BR-18-09-08**
SIMULATION OF CUBESATS IN ORBIT: PATH AND COLLISION RISKS
(Victoria Junqueira Gentil, Rafael Andreotti, Mateus Yuji Vieira and David Richard de Noronha Santos)
- 16:00-16:30 Coffee-break**
Brava room

Thursday, 6th December 2018

Session 10 – Cubesat Competitions (Chair Dr. Walter Abrahão dos Santos - INPE) Auditorium 16:30-17:00

- 16:30-16:45 IAA-BR-18-10-01**
CubeDesign: A COMPREHENSIVE COMPETITION FOR SPACE ENGINEERING CAPACITY BUILDING IN LATIN AMERICA
(Walter Abrahão dos Santos, Jenny C. Robledo Asencio, Eduardo Burger, Lazaro A. Pires Camargo, Christopher S. Cerqueira, Jeanne Lima, Herbi J. Pereira Moreira, Daniel Nono, Mateus Oliveira, Italo Pinto Rodrigues, Felipe Oliveira Tavares, Auro Tikami and Plinio Ivo Gama Tenório)
- 16:45-17:00 IAA-BR-18-10-02**
OrbiSat-1: EDUCATIONAL MODEL OF A CONCEPTUAL CUBESAT
(Marcos Gonçalves, Gustavo Franco, Rafael Pereira, João Coutinho, Rodrygo Simões, Vinicius Duarte, Arnaldo Marchesotti, and Barbara Germano)

---Meeting---

(Chair Dr. Walter Abrahão dos Santos - INPE)
(Chair Dr. Lazaro Camargo - INPE)

CubeDesign Meeting

Auditorium 17:00-17:30

- 17:00-17:05 PUC-MG**
- 17:05-17:10 UFSCar-USPSC**
- 17:10-17:15 FACENS**
- 17:15-17:20 UFSC**
- 17:20-17:30 Questions and Answers**

Thursday, 6th December 2018

---Poster Session - oral presentations---

Exhibition in the Brava room during the whole workshop

(Chair Dr. Walter Abrahão dos Santos - INPE)

Auditorium 17:30-18:30

- 17:30-17:35 IAA-BR-18-1P-01**
ON BOARD COMPUTING FOR SCIENTIFIC PAYLOADS ON NANOSATELLITES
(Lazaro Camargo and Walter A. Dos Santos)
- 17:35-17:40 IAA-BR-18-1P-02**
LISTENING TO THE EARTH AND CHATTING WITH AMATEUR RADIO FROM SPACE. CDA – A CUBESAT TRANSPONDER
(Vanderlei Cunha Parro, Rodrigo de Marca França, Marcio Antonio Mathias, Alessandro de Oliveira Santos, Rodrigo Alvite Romano, Bahha Laifi, Fernando de Almeida Martins and Sergio Ribeiro Augusto)
- 17:40-17:45 IAA-BR-18-1P-03**
IMPLEMENTATION OF FAULT TOLERANCE TECHNIQUES FOR INTEGRATED NETWORK INTERFACES
(Douglas Melo, Cesar Zeferino, Antonio Ramos, Luigi Dilillo and Eduardo Bezerra)
- 17:45-17:50 IAA-BR-18-1P-04**
DEVELOPMENT OF A LOW COST APPLICATION FOR OPEN HARDWARE IN SMALL SATELLITES
(Roberto Ferro, Jorge Espindola and Helmer Muñoz)
- 17:50-17:55 IAA-BR-18-1P-05**
DATA ACQUISITION FROM CUBESAT - FACENS³
(Maurício Jandir Daneluz Bonato, Aliffy Eustaquio de Araujo Benevides, Beatriz Cristina Marques de Mendonça and Mariana Mayumi Kawachi)
- 17:55-18:00 IAA-BR-18-1P-06**
IMPACT OF SPACE WEATHER ON THE CBERS SATELLITE THROUGH NUMERICAL SIMULATIONS
(Alisson Louly, Rodrigo Miranda, Jhessica Luz and Sarah da Costa)
- 18:00-18:05 IAA-BR-18-1P-07**
EXPERIMENTING WITH NANOSATS AND PICOSATS FOR CAPACITY BUILDING IN BRAZIL
(Lazaro A. P. Camargo, Jenny C. R. Asencio, Eduardo E. Burger, Christopher S. Cerqueira, Jeanne Lima, Herbi J. P. Moreira, Daniel Nono, Mateus Oliveira, Italo P. Rodrigues, Felipe O. Tavares, Auro Tikami, Plinio I.G. Tenório and Walter A. dos Santos)
- 18:05-18:10 IAA-BR-18-1P-08**
MONITORING BURNED AREAS IN THE AMAZON FOREST FROM TIME SERIES SATELLITE DATA
(Giancarlo Santilli, Cristian Vendittozzi, Paolo Gessini, Claudia Arantes Silva and Luiz Rocha de Carvalho)
- 18:10-18:15 IAA-BR-18-1P-09**
MODELING AND CONSTRUCTION CANSAT
(Michelly Guedes, Árisla Soares, Pedro Gil, João Nascimento and José Lopes)
- 18:15-18:20 IAA-BR-18-1P-10**
CEFAST AEROSPACE: DEVELOPING CANSAT AND CUBESAT FOR SPACE EDUCATION
(Geraldo Magela Couto Oliveira, Jeferson Figueiredo Chaves, Maria Cecília Pereira and Willer Gomes dos Santos)

Friday, 7th December 2018

- 08:00-** **Registration**
Lobby – Ubatuba Theatre (Teatro Municipal de Ubatuba)
- 09:00-09:25** **Workshop wrap-up and next edition (candidatures)**
Organizing committee
- 09:25-09:30** **Closing remarks**
Organizing committee
- 09:30-10:00** **Coffee-break**
Brava room
- 10:00** **Transfer to INPE**
- 13:00-14:30** **Lunch at INPE**
- 15:00-17:00** **LIT/INPE visit - São José dos Campos, SP**