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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Benjamin K. Malphrus, Morehead State University, USA
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Eduardo Augusto Bezerra, UFSC, Brazil
Fernando Aguado Agelet, Universidad de Vigo, Spain
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Kleber Vieira de Paiva, UFSC, Brazil
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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
Monday, 3\textsuperscript{rd} December 2018

07:00-09:00 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, Lazar A. P. Camargo, Kleber Pinheiro Naccarato and Walter Abrahão Dos Santos)
Monday, 3\textsuperscript{rd} 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 Pantsymyi)

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, 4\textsuperscript{th} 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 Cecília 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

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
(Matthais Papamatthaiou, Ilias Daradimos, Manolis Surlgas, Pierros Papadeas, Agisilaos Zisimatos, George Vardakis, Fredy Damaklis, Vasilis Tsiliogiannis, 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, Anatoly Iyudin, Ruslan Gasanov, Vladimir Kalezaev, Tartan Mammadzada, Vasily Petrov, Michael Podzolko, Elena Popova, Rovshan Rustamov, Adalyat Samedov, Hikmat Seyidov, Sergey Svertlov 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 Martinez, 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, Matthaios Papamathaou, 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, Anatoly Iyudin, Vladimir Kalezaev, Pavel Klimov, Vladislav Osedlo, Vasily Petrov, Elena Popova, Michael Podzolko, Ilia 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, Samahemi Morais 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 Seiiti 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 Lucanda 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

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
(Mauricio Jandir Daneluz Bonato, Aliffy Eustaquio de Araujo Benevides, Beatriz Cristina Marques de Mendoça 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

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 CNSAT
(Michelly Guedes, Arisla Soares, Pedro Gil, João Nascimento and José Lopes)

18:15-18:20 IAA-BR-18-1P-10
CEFAST AEROSPACE: DEVELOPING CNSAT AND CUBESAT FOR SPACE EDUCATION
(Geraldo Magela Couto Oliveira, Jeferson Figueiredo Chaves, Maria Cecilia 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