PROGRAMME OF THE BDA WORKSHOP

28th July – 1st August 2008

Most of talks are related with invited speakers, collaborators, potential users and that of the BDA advisory Committee members. Submitted works will be presented only as poster.

Monday (28/7)	Tuesday (29/7)	Wednesday* *(30/07)	Thursday (31/07)	Friday (01/08)
9:00-10:00 (Registration)	9:00-9:45 (Talk10)	8:00 Living – INPE-SJC	9:00-9:45 (Talk 20)	9:40-9:45 (Talk 28)
10:00-10:30 (Opening Ceremony)	9:50-10:20 (Talk11)	9:45 – 10:15 Arrival INPE – CP Groups and coffee	9:50-10:20 (Talk 21)	9:50-10:20 (Talk 29)
10:30-11:00 (Talk 1)	10:20-10:50 (Talk 12)	10:30 -13:00 Visit BDA site	10:20-10:40 ((Talk 22)	10:20-10:50 (Talk 30)
11:00-11:30 (Talk 2)	10:50-11:15 (Coffee Break)		10:40-11:00 (Talk 23)	10:50-11:20 (Coffee Break)
11:30-11:50 (Coffee Break)	11:20-11:40 (Talk 13)		11:00-11:25 (Coffee Break)	11:20-11:40 (Talk 31)
11:50-12:10 (Talk 3)	11:40-12:00 (Talk 14)		11:30-11:50 (Talk 24)	11:40-12:00 (Talk 32)
12:10-12:30 (Talk 4)	12:00-14:00 (Lunch)	13:00-14:30 (Lunch)	11:50-12:10 (Talk 25)	12:00-14:00 (Lunch)
12:30-14:00 (Lunch)	14:00-14:20 (Talk15)	14:30 – 16:30 Exhibition of the new systems	12:10-14:00 (Lunch)	14:00-16:00 visit / INPE - LIT
14:00-14:20 (Talk 5)	14:20-14:40 (Talk 16)		14:00-14:20 (Talk 26)	16:00 -16:15 coffee / LIT
14:20-14:40 (talk 6)	14:40-15:00 (Talk 17)		14:20-14:40 (Talk 27)	16:15-16:45 (G-4)
14:40 – 15:00 (talk 7)	15:00-15:20 (Talk 18)		14:40-15:10 (G-3)	16:45-17:30 (G4)
15:00:15:20 (talk 8)	15:20-15:40 (Talk 19)		15:10-16:00 (G-3)	17:30-17:55 (Meeting Adv.Com.)
15:20-15:40 (Talk 9)	15:45-16:30 Coffee / Poster	16:30-17:00 coffee	16:05 -17:00 Coffee / Poster	17:00 – 18:00 (Meeting Adv.Com.)
15:45-16:30 Coffee / Poster	16:30-17:30 (G-2)		16:30-17:20 (Meeting Adv.Com.)	18:00 Closing Ceremony
16:30-17:30 (G-1)	17:30 – 18:00 (G-2)	17:00 Departure INPE/ CP	17:20-18:00 (Meeting Adv.Com.)	
17:30 – 18:00 (G-1)		18:30 Arrival in INPE / SJC		

*Get familiar with at the site of the BDA: http://www.das.inpe.br/fmi/BDA/bdahome.html

i) PBDA operation
ii) Planned systems of distribution of RF Cables
iii) Tracking system and
iv) Prototype of the temperature stabilization system. Obs. Dates see in programme.

G-1 - Group Discussions – i) Front end – LNA and feeder ii) tracking system – mechanical, electronic hard/soft aspects.

G-2 - Group discussions – Receiver, LO distribution, phase stability, real time receivers' status.

G-3 - Group Discussions – Digital system, interfacing to analogue and data acquisition systems, location of Walsh Switching.

G-4 – Data storage, software for preliminary analysis, event listing for non solar observers.

PRESENTATION TITLES, AUTHORS AND INSTITUTES

1. **High - lights of Astronomy in INPE**

   Braga, J. – INPE

2. **Overall view of the BDA project**

   Sawant, H.S. – INPE

3. **Status of the development of the broad band feeder**

   Miranda[1], C.A.I.; Geier[2], I.O.; - INPE

4. **BDA Broad band receiver**

   C.M. Silva[1], L.B.T. Cividanes[2], V. P.D.Costa Junior[2], J. Braga[2] and H.S.Sawant[2]

   Neuron Electronic Ltda[1] and INPE[2]

5. **Electromechanical structure of the parabola**

   F.C.R. Fernandes[1], Cristina[2] - UNIVAP1 and TECSAT[2]

6. **Hardware of the BDA tracking system**

   Joshi[1] A. and Nagarathan[2] V.N. - IMT[1] Pune – INDIA and NCRA/GMRT[2] - INDIA

7. **Software of the BDA tracking system**

   Dandekar A. - IMT - INDIA

8. **Digital correlator receiver for Brazilian Decimetric Array (BDA)**

   Subramanian K.R. - Radio Astronomy Group - IIA - INDIA

9. **Stabilization of temperature of the supporting tower of the antenna, LNA and RF cables.**

   Padovan[1] M. C., Alves[2] L.E.Q.V., Cassiano[2] A.B., Sawant[2] H.S. - LIT[1] and DAS[2] – INPE

10. **Solar studies with GMRT**

    Ananthkrishanan, [1] S.; Subramanian[2], P.; Madsen[3], F. R.H.; and Sawant,[3] H. S.

    UNIV Pune[1] - India, IIA[2] - India and INPE[3]

11. **Solar Sciences with BDA**

    Gopalsawamy, N. - NASA –GFSC – USA

12. **"Interferometers – users and science , - the Software link"**

    Hurford, G. - Space Science Lab – Univ. California Berkeley- USA

13. **Signature of MHD Turbulence in Geoeffective Solar Radio Sources**

    Rosa R. - LAC – INPE

14. **High resolutions wide band solar activity monitoring**

    Costa J.E.R.[1], Sawant H. S[1], Cecatto J.R[1] and Rosa R.R.[2]

    [1]LAC and [2]DAS - INPE

15. **Solar radius measurements with BDA**

    Valio, A.[1], Costa J.R[2] - [1]CRAAM/Mackenzie and [2]DAS/INPE

16. **Data processing of the PBDA and "Friendly software"**

    Cecatto, J.R. and Andrade, M.C. - DAS/INPE

17. **Phase calibration by GPS satellites**

    Madsen, F.H., Freitas, U.S., Cecatto, J.R., and Lemos, K.S.; Souza, A. O and Sawant H.S. - DAS/INPE

18. An optimized Configuration for the brazilian decimetric array

Sthephan Stephany[1] and Claudio Faria[2]

[1]LAC-INPE and [2]PUC-Minas

19. Radio Astronomy Facilities at the Indian Institute of Astrophysics

Hasan S.S. - Indian Institute of Astrophysics – India

20. Highlights of Radio Astronomy in Brazil for last 25 years

Abraham, Z. - IAG -USP

21. Current status of the FASR, and collaboration with BDA

Gary D. - New Jersey Institute of Technology – USA

22. Chinese Spectral Radio heliograph: System Overview and Array Design

Ihua Yan[1], Jian Zhang[2], Wei Wang[1]*, Fei Liu[1], Zhijun Chen[1] Guoshu Ji[1], Yujiang Dou[1], Linjie Chen[1], Junbo, He[1]

[1]National Astronomical Observatories, CAS, Beijing 100012, China

[2]Beijing University, Beijing 100871, China

23. Current investigations in digital receiver and control subsystem in CSRH

Liu Fei and CSRH team

National Astronomical Observatories, Chinese Academy of Sciences

24. Alternative BDA Correlation systems: FPGA versus Software Correlation

Saito J.H. - Dept. Comp. - UFSCar

25. Quantum circuit proposal to BDA radiointerferometer correlations

Violin de O. V[1]. and Saito J.S[1] Sawant, H.S[.2] - Dept. Comp. – UFSCar [1] INPE [2]

26. Prototype of the digital correlator for PBDA

Strauss, C[1]. and Braga, A[2]. - CEA/INPE[1] and DAS/INPE[2]

27. Wide field maging with the BDA

Prameshrao A. - NCRA - GMRT – TIFR – India

28. Galactic and extra –galactic radio astronomy with BDA

José W. S. Vilas-Boas[1]; Luiz C. L. Botti[2], Everton Lüdke[3] Avelino G. Balboa.[1] and Sawant H.S.[1]

[1] DAS – INPE, [2]CRAAM/INPE, [3]Universidade Federal de Santa Maria -RS.

29. Radio astronomy and the Cosmic Microwave Background Radiation: half-century of science

Wuensche de Souza C.A. and Thyrso V. N. - DAS/INPE

30. Enigmas of Centaurus A

L.C.L.Botti - CRAAM/Escola de Engenharia/Universidade Presbiteriana Mackenzie CEA/Instituto Nacional de Pesquisas Espaciais (INPE)

31. The first land mark of the Brazilian space weather program

Takahashi, H., Sawant, H. S., Gonzalez, W., de Paula, E., Vitorello, I., Campos Velho, H. and others. - CEA/INPE

32. Preliminary result with neural network for data assimilation to the space weather

Haroldo Fraga de Campos Velho LAC/ INPE

BDA WORKSHOP PROGRAMME

Monday – 28 July	
09:00 - 10:00	**Registration**
10:00 - 10:30	Opening Ceremony (Master of Ceremony) Câmara G. – Director of INPE
10:30 - 11:00	High light of Astronomy in INPE Braga J. - Coordinator of Scientific Management of INPE
11:00 - 11:30	Overall view of the BDA project Sawant H.S. Coordinator of BDA Project
11:30 - 11:50	**Coffee break**
11:50 - 12:30	**SECTION 1 - CHAIR – Prof. S. Ananthkrishanan**
11:50 - 12:10	Status of the development of the broadband feeder Miranda C. A. . – DEA/INPE
12:10 - 12:30	BDA wideband receiver Silva C. R. – Neuron Eletronica
12:30 - 14:00	**Lunch**
14:00 - 18:00	**SECTION 2 - CHAIR – Prof. D. E. Gary**
14:00 - 14:20	Electromechanical structure of the parabola Fernandes F. C. R. – IP&D/UNIVAP
14:20 - 14:40	Hardware of the BDA tracking system Joshi A. – Intelligent Motion
14:40 - 15:00	Software of the BDA tracking system Dandekar A. – Intelligent Motion
15:00 - 15:20	Digital correlator receiver for BDA Subramanian K. R. - IIA
15:20 - 15:40	Stabilization of temperature of the supporting tower of the antenna, LNA and RF cables Almeida, M. C. P. – LIT/INPE
15:45 - 16:30	**Coffee / Poster Section**
16:30 - 18:00	Group discussions: **Front end – (LNA and feeder), Tracking system – mechanical, electronic, Hardware/ software aspects**

BDA WORKSHOP PROGRAMME

Tuesday – 29 July	
09:00 – 12:50	**SECTION 3 - CHAIR – Prof. D. E. Gary**
09:00 – 09:45	Solar studies with GMRT Ananthkrishanan S. – NCRA, India
09:50 - 10:20	Solar sciences with BDA Gopalswamy N. - NASA/Goddard Space Flight Center
10:20 - 10:50	Interferometers – Users and Science - the Software Link Hurford G. J. - Caltech
10:50 - 11:15	**Coffee break**
11:20 - 11:40	Signature of MHD Turbulence in Geoeffective Solar Radio Sources Rosa R. R. – LAC/INPE
11:40 - 12:00	High resolutions wide band solar activity monitoring Costa J. E. R. – DAS/INPE
12:00 - 14:00	**Lunch**
14:00 - 18:00	**SECTION 4 - CHAIR – G. Hurford**
14:00 - 14:20	Solar radius measurements with BDA Silva A. R. V. - CRAAM/Mackenzie
14:20 - 14:40	Solar decimetric emission Subramanian K. R. - IIA
14:40 - 15:00	Data processing of the PBDA and “friendly software” Cecatto J. R. – DAS/INPE
15:00 - 15:20	Phase calibration by GPS satellites Madsen F. R. H. – DAS/INPE
15:20 - 15:40	An optimized configuration for the brazilian decimetric array Stephan Stephany – LAC / INPE
15:45 - 16:30	**Coffee / Poster Section**
16:30 - 18:00	Group discussions: **Receiver, LO distribution, Phase stability, Real time receivers status**

BDA WORKSHOP PROGRAMME

Wednesday – 30 July	
08:00	Leaving – INPE / SJC
09:45 - 10:15	Arrival in INPE / CP - Groups and coffee
10:30 –13:00	Each group of 10 participants will be visiting BDA site and get familiar with PBDA operation, methodology of distributions of cables and temperature stabilization system.
13:00 - 14:30	**Lunch**
14:30 – 16:30	There will be exhibition of the followings new systems developed to with stand rough tropical climate: new red dome with mechanical structures to support front end, the part the receiver that will stay in tower, tracking system of all 38 antennas.
16:30 17:00	**Coffee**
17:00	Departure – INPE / CP
18:30	Arrival in INPE / SJC

BDA WORKSHOP PROGRAMME

Thursday – 31 July	
09:00 – 11:35	**SECTION 5 - CHAIR N. Gopalswamy**
09:00 – 09:45	Highlights of Radio Astronomy in Brazil for last 25 years Abraham, Z – IAG/USP
09:50 - 10:20	Current status of the FASR, and collaboration with BDA Gary, D. E. - NJIT
10:20 - 10:40	Chinese Spectral Radioheliograph: system overview and array design Wei Wang - CSRH
10:40 - 11:00	Current investigations in digital receiver and control subsystem in CSRH Wei Wang - CSRH
11:00 - 11:25	**Coffee break**
11:30 - 11:50	Alternative BDA Correlation systems: FPGA versus Software Correlation / Saito J. H. – DC/UFSCar
11:50 - 12:10	Quantum circuit proposal to BDA radio interferometer correlations Saito J. H. – DC/UFSCar
12:10 - 14:00	**Lunch**
14:00 - 16:00	**SECTION 6 - CHAIR – G. Hurford**
14:00 - 14:20	Prototype of the digital correlator for PBDA Strauss C. – DAS/INPE
14:20 - 14:40	Wide Field Imaging with the BDA Pramesh Rao A. TIFR/GMRT
14:40 - 16:00	Group discussions: **Digital system, interfacing to analogue and data acquisition systems.** **Location of Walsh Switching**
16:05 - 17:00	**Coffee / Poster Section**
16:30 - 18:00	Meeting Advising Committee.

BDA WORKSHOP PROGRAMME

Friday – 01 August	
09:00 – 10:50	**SECTION 7 - CHAIR - Zulema**
09:00 – 09:45	Galactic and extra-galactic radio astronomy with BDA Vilas Boas, J. W. S. – DAS/INPE
09:50 - 10:20	A Radio astronomy and the Cosmic Microwave Background Radiation: half-century of science". Wuensche, C. A – DAS/INPE
10:20 - 10:50	Enigmas of Centaurus A Botti, L.C.L. - INPE - CRAAM/Mackenzie
10:50 - 11:20	**Coffee break**
11:20 -	**SECTION 8 - CHAIR Demisio**
11:20 - 11:40	The first land mark of the Brazilian space weather program Takahashi, H – DGE/INPE
11:40 – 12:00	Preliminary result with neural network for data assimilation to the space weather Haroldo Fraga de Campos Velho LAC/ INPE
12:00 - 14:00	**Lunch**
14:00 - 16:00	Visit to INPE, LIT (meeting at Visitor Center)
16:00 - 16:15	**Coffee / LIT**
16:15 – 17:30	Group discussion: **Data storage, software for preliminary analysis, event listing for non solar observers**
17:30 – 18:00	**Advise Committee Report and Closing Ceremony**

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