

Charlottesville, Va  
April 10/92

Note:

The aips++ steering committee recently requested a series of weekly bulletins, briefly stating the group's progress. This is the first such. People with comments or questions should direct them through their "nearest" steering committee member. Members are:

Tim Cornwell, NRAO (Socorro), tcornwel@nrao.edu  
Geoff Croes, NRAO (Charlottesville) gcroes@nrao.edu  
Dick Crutcher, BIMA (U Illinois) crutcher@sirius.astro.uiuc.edu  
Rick Fisher, NRAO (Green Bank) rfisher@nrao.edu  
Jan Noordam, NFRA (WSRT Dwingeloo), noordam@nfra.nl  
Ray Norris, CSIRO (Sydney) rnorris@atnf.csiro.au  
Dave Shone, NRAO (Jodrell Bank), dshone@nrao.edu  
Ramesh Sinha TIFR (Puna), sinha@gmrt.ernet.in  
Tony Willis, DRAO (Penticton BC), twillis@drao.nrc.ca

### 1. Notes and memos

A series of aips++ implementation notes and memos has been started. The distinction is that notes are mostly meant for internal distribution (although anyone is welcome to read them) and may thus lack context for outside readers, whereas memos were created with a wider audience in mind (e.g., domain experts). (Notes may also be used to "hold" memos which are not yet ready for distribution).

Where possible, all notes and memos will be made available electronically, although sometimes figures will only be available in the paper form. Details on paper redistribution will be sent in a future aips++ bulletin.

Electronic copies of the notes and memos are available via anonymous ftp from the machine baboon.cv.nrao.edu (192.33.115.103) under the directory pub/aips++/doc/notes and pub/aips++/doc/memos. File suffixes are as follows:

- .ps - postscript
- .tex - plain TeX
- .latex - LaTeX
- .texi - Texinfo (The GNU projects documentation system)
- .text - Plain ASCII text
- .dir - A directory that contains multiple files required for some documents.

A postscript version will generally be made for files which are not simple ASCII.

Although the list is still being constructed out of past email, disk files etc, a tentative list of available memos and notes is appended at the end of this message.

### 2. Project Book

A decision has been made to create a project book to record the current state of the project (as opposed to: how we hope things will be in the future). The general scope of the book is outlined in memo 105, and work on creating it is starting now. Hjellming and Glendenning will be the initial editors.

The book will be written using Texinfo, and software diagrams will be produced according to the "Object Modeling Technique" described in the book "Object-Oriented Modeling and Design" by Rumbaugh, Blaha, Premerlani, Eddy, and Lorensen; Prentice Hall, 1991.

### 3. Current Work

Work is proceeding on several fronts in Charlottesville.

The group considering interferometer imaging has made considerable progress. They have been considering the difficult problems of

mosaicing and isoplanaticity and think they have a design in place that will work for those problems. Their work is placing constraints on the telescope model and image structure, some of which are outlined in Note 132.

The group looking at the telescope model (essentially, calibration) has been having problems "breaking through" to the next level of abstraction. While there is a working model for the relation between the telescope and the data (e.g., Note 130) it may need to be reexamined after concerns at a more detailed level are examined. The group is currently looking at data selection, iteration, and aggregation in a more detailed way.

Work on fundamental libraries is proceeding apace. Some additional work on hypertext documentation and a simple "keyword=value" input system is proceeding. System management tools are well advanced. Tools to provide incremental distribution to remote sites from a central repository have been created and are being debugged, and a configuration utility is well under way. A reorganization of the directory structures was made to allow RCS (Revision Control System) to be easily replaced with CVS (Concurrent Versions System) at a later date if concurrent "checkin" becomes desirable.

As scheduled, Bob Sault left the group to return to Australia late this week. Bob's hard work, past experience, and insightful comments were all enormously helpful and we hope that the transcontinental collaboration with Bob will be successful. Thank you Bob.

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(Numbers are only tentatively assigned at the moment)

Memos:

101 "Introduction to the Memos and Notes" April xx/92  
Glendenning.  
Under construction.

102 "An Initial Design for Major AIPS++ Objects", Jan 31/92  
Hjellming, Glendenning.  
An incomplete note that set context for the Green Bank meeting.  
Has two figures unavailable in the electronic version.

103 "Calibration, Imaging, and Datasystems for AIPS++ - Report of  
the meeting held at Green Bank, West Virginia, 3d-14th  
February, 1992", Feb 18/92  
Shone, Cornwell (Eds).  
Has several figures and many pages of text that are only available in  
paper, but the important expository text is available electronically.

104 "aips++ prototype", March 20/92  
Olnon (Ed).  
Report on a small prototype the development group undertook. Two  
figures are only available in paper.

105 "Tentative Proposal for an AIPS++ Project Book", April 9/92  
Hjellming, Glendenning.

Notes:

101 "Introduction to the Memos and Notes" April, xx/92  
Glendenning.  
Under construction.

102 "Summary of Discussion on Internal Standards", Jan 14/92  
Flatters.  
>From email.

103 "UV Data System and Processing Requirements - An Initial  
Distillation", Jan 25/92  
Flatters, Holdaway, Sault, Shone

Input document to the Green Bank meeting

104 "Class Documentation Standards", Jan 30/92

Flatters.

Initial proposal for class documentation (.h file) standards.

105 "Progress report aips++ project, January 1992", Feb 11/92

Croes

Report from the project manager.

106 "System management for aips++ Part 2: activation, generation  
and verification", Feb 14/92

Calabretta

107 "Comments on "Calibration, Imaging and Datasystems for AIPS++"  
from Green Bank Meeting 3-14 Feb., 1992", Feb 23/92

Cotton

Reaction to the Green bank report (memo 103)

108 "Miscellaneous Notes on Code Organization, Make, etc.", Feb 25-Apr 7/92

Calabretta

Extracted from several (11) email messages

109 "TESTBED's", March 7/92

Teuben

Suggestion on embedding test programs in code, from email.

110 "Delayed Reaction to Green Bank", Mar 7/92

Glendenning

Some perceived problems with the Green Bank report. Should be read  
together with notes 111 and 112.

111 "Comments on Brian's note", Mar 9/92

Sault

112 "++GreenBank - Part 1", Mar 9/92

Shone, Flatters

Note from Shone with reaction from Flatters and followup from Shone  
(from email).

113 "answers to some questions", Mar 9/92

Klein

C++ questions on "logical" constness and passing by reference.

114 "A Rational Plan for AIPS++", Mar 12/92

Flatters

Criticism of Green Bank meeting with suggestions for future progress.

115 "System management for aips++ Part 1: organization and distribution",  
Mar 14/92

Calabretta

116 "Where do we go from here?", Mar 16/92

Holdaway

>From email.

117 "Users Guide to Image Coordinate Systems", Mar 14/92

Holdaway, Bhatnagar

Criticism and evaluation of the prototype coordinate systems.

118 "Images, Coordinates, Confusion", Mar 18/92

Glendenning, Higgs

Replies to note 117, from email.

119 "Basic Libraries Report", Mar 18/92

Payne, Stupar

120 "aips++ progress report", Mar 19/92

Croes

Progress report from the project manager.

121 "User Interface", Mar 19/92

Teuben

Note on the proposed keyword=value scheme, and its relation to Khoros

122           "++GreenBank - Part 2; suggestions for what we should do  
              next", Mar 20/92  
Shone

123           "Mosaicing Report for the Prototype", Mar 24/92  
Holdaway  
>From email.

124           "aips++ documentation", Mar 24/92  
Payne  
A short discussion of code documentation, including the genman  
utility. From email.

125           "Texinfo Primer", Mar 31/92  
Teuben  
A short note on using Texinfo.

126           "My Summary of the Day's Confinement", Apr 1/92  
Glendenning  
A short summary of a days discussion, from email.

127           "Suggestions from Ed Fomalont and Andrew Klein", Apr 2-4/92  
Fomalont, Klein  
Suggestions on areas to concentrate on. From email.

128           "The YEG Object", Apr 6/92  
Fomalont  
Attempt to define organization and contents of the yeg.

129           "Next Phase", Apr 7/92  
Glendenning  
Group organization.

130           "YegSets, Telescope models and Calibration", Apr 7/92  
Shone  
A note on the relation of these classes, from email.

131           "Further thoughts on coordinates", Apr 7/92  
Higgs  
>From email.

132           "Exotic Imaging Methods: A Guide for Masochistic AIPS++  
              Designers", Apr 7/92  
Holdaway, Bhatnagar.  
Constraints mosaicing and isoplanaticity impose on the design.