JIVE Newsletter number 99-2

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 ----++++====   The JIVE Newsletter,  Year 1999, Number 2 ====++++----
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Dear subscribers,

It has been a while since you last received a JIVE Newsletter. A lot
of work has been done in the mean time. This issue contains an
extensive update on the status of the EVN MkIV correlator at JIVE, as
well as two announcements/reminders, about the upcoming EVN TOG
and the third EVN VLBI School. URLs of pages containing more
detailed information have been included where appropriate.


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1) Status of the EVN MkIV correlator at JIVE: first user data produced!

The last JIVE newsletter reported on the first image obtained with the
EVN MkIV data processor at JIVE. Although it proved the correlator
could produce astronomical data, processing was still experimental and
software enhancements in many areas were needed before user data could
be produced in a streamlined way.

Therefore, work focussed again on writing and testing new software
after the success of the first image. The high level software was
upgraded, for instance, the interaction with the model (CALC) was
incorporated into the software that starts up a correlator
job. Another enhancement was needed to process multiple scans in one
go. The operator interface has now more detailed information on the
system's performance during correlation. Also a set of tools is now
available to process log files and GPS data before the correlation
starts. Moreover, a number of different correlator modes have become
available, which are now loaded automatically at the start of a job.

On the output side, an important improvement has been the addition of
weights to the data, making sure that playback problems no longer need
to be flagged by hand. Many improvements have to do with the
accountability of the whole data path; a first version of the
correlator output format is now available, where we first were relying
on a rather ad-hoc way of decoding the data.

No wonder that when we tried out all the enhancements in the middle of
June the list of bugs showed an upward trend at first. But after three
or four weeks of laborous debugging the data processor started to
produce sensible data again. We decided to first reprocess the data
from our test experiment, still only with 8 stations.

It proved to be a bit easier to collect the data with the new operator
interfaces, but most importantly the data are quite a bit easier to
process. This also bears on quite a number of improvements made to the
data decoders, the station units. A "second image" was made from the
data, which now included Global baselines. The dynamic range of the
resulting image illustrates the significant increase in data quality:
the dynamic range went from 200:1 in the first image to 1000:1 in the
second image. Check

        http://www.nfra.nl/jive/jive/correlator/secondimage.html

for the resulting image.

All this led to correlation of the first user experiment, an HI line
absorption experiment, completed on August 4. It differed from the
earlier test experiments in many ways and it revealed a different set
of bugs. But in the end all of these peculiarities could be fixed up
without re-correlating. The HI experiment did require two correlator
passes to provide both the line and continuum data, because of the
current limit on output rate.

This first release of user data is a major milestone. In the three
weeks after the correlator started production work it generated data
32% of the nominal working hours. This number will now drop, as many
smaller and larger enhancements are required in the next few months. A
15-25% efficiency is required for the next couple of months to keep up
with the observations already observed or on the calendar for the next
session.

2) The 3rd EVN VLBI School

The EVN VLBI School will be held for the third time this year. It will
take place at JIVE, Dwingeloo, from November 3rd to November 5th. The
three day School will consist of a series of lectures, interleaved
with practical demonstrations, that cover all aspects of VLBI - from
observation planning to post-correlation data reduction.

Full details of the proposed program will be given in the Second
Announcement and placed on the EVN VLBI School WWW site. An electronic
registration form can be found there as well. The URL to start from is:

        http://www.nfra.nl/jive/school99/school.html

Leonid Gurvits, chair of the School Organizing Committee, is the
person to contact for questions. Leonid can be reached at:

       lgurvits@jive.nfra.nl

The deadline for registration is 10 September 1999.

NOTE: In order to provide good contact between the participants
and lecturers participant numbers are limited to around 30 people.

3) The next EVN TOG meeting

The next EVN TOG meeting will be held in Dwingeloo from October 1st to
October 3rd. The local organizing committee have set up a set of
web-pages, containing all information.

These pages can be found at:

       http://www.nfra.nl/jive/conf/tog_page.htm

Nico Schonewille (chief operator for JIVE), is the main person
to contact for questions. Nico can be reached by e-mail:

       schonewille@jive.nfra.nl

Please note that we need to know well in advance the number of people
attending, so we would appreciate you making your registration as soon
as possible.

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This newsletter was prepared by Harro Verkouter, offline software
scientist at JIVE, Dwingeloo.

I would appreciate your suggestions, comments, additions and any other
form of feedback, especially if you plan to have a symposium (or the
like). Please mailto:verkouter@jive.nfra.nl.

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