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To: UVLBI Group
From: Alan E.E. Rogers
Subject: Follow-up on DBE1 and RDBE comparisons

After much help from Russ I have added a means on correcting the phase flips and single-band vs multiband offsets in vlbi0. I also added relatively fast multiple tone phase cal extractor for 1 or 5 MHz which I used to get ibob and rdbe plots.

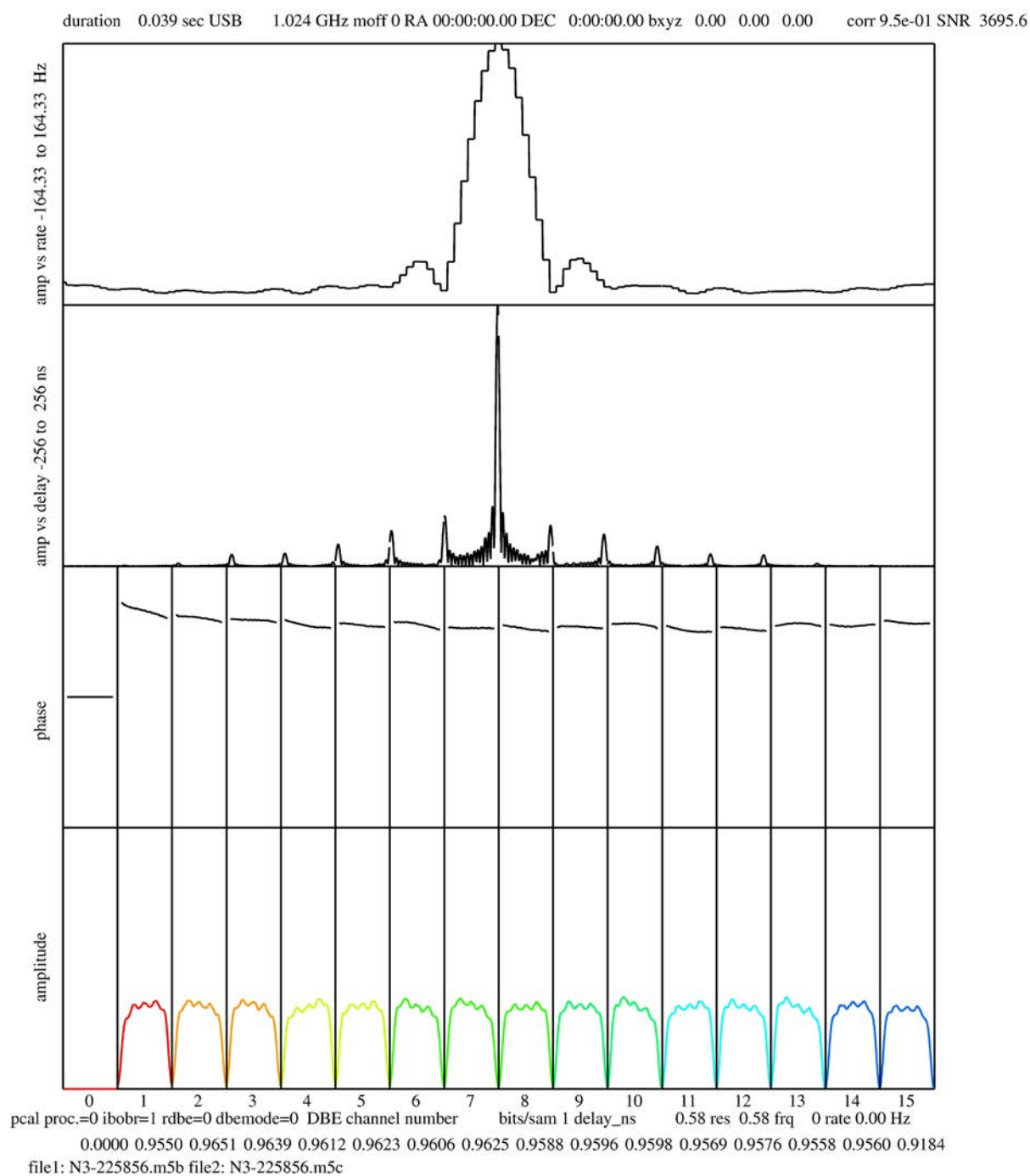
The corrections are as follows:

For IBOB vs RDBE: 180 deg phaseflips to DBE channels 14 and 15 plus 15.625 ns addition to single-band delay - see ibobvsrdbe.pos (Fig 1.)

For IBOB alone so pcal looks normal 180 deg phaseflips to DBE channels 14 and 15 plus 15.625 ns addition to single-band delay - see ibob_odd.pos (Fig 2.) and ibob_even.pos (Fig 3.)

For RDBE - so pcal looks normal - no correction from odd DBE channels see rdbe_odd.pos (Fig 4.) 180 deg phase flips for DBE channels 2,6,10,14 - see rdbe_even.pos (Fig 5.)

The bottom line is that these checks confirm Russ' understanding. i.e. the IBOB has phase flips and an offset between single-band and multiband - which is only an issue for baselines between the IBOB and RDBE while the RDBE is fine for the odd channels IF0 DBE1 convention but has phase flips for the even channels IF0 DBE1 convention.



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vlbi0 program ver 6 Wed Mar 7 10:58:03 2012

Fig. 1.

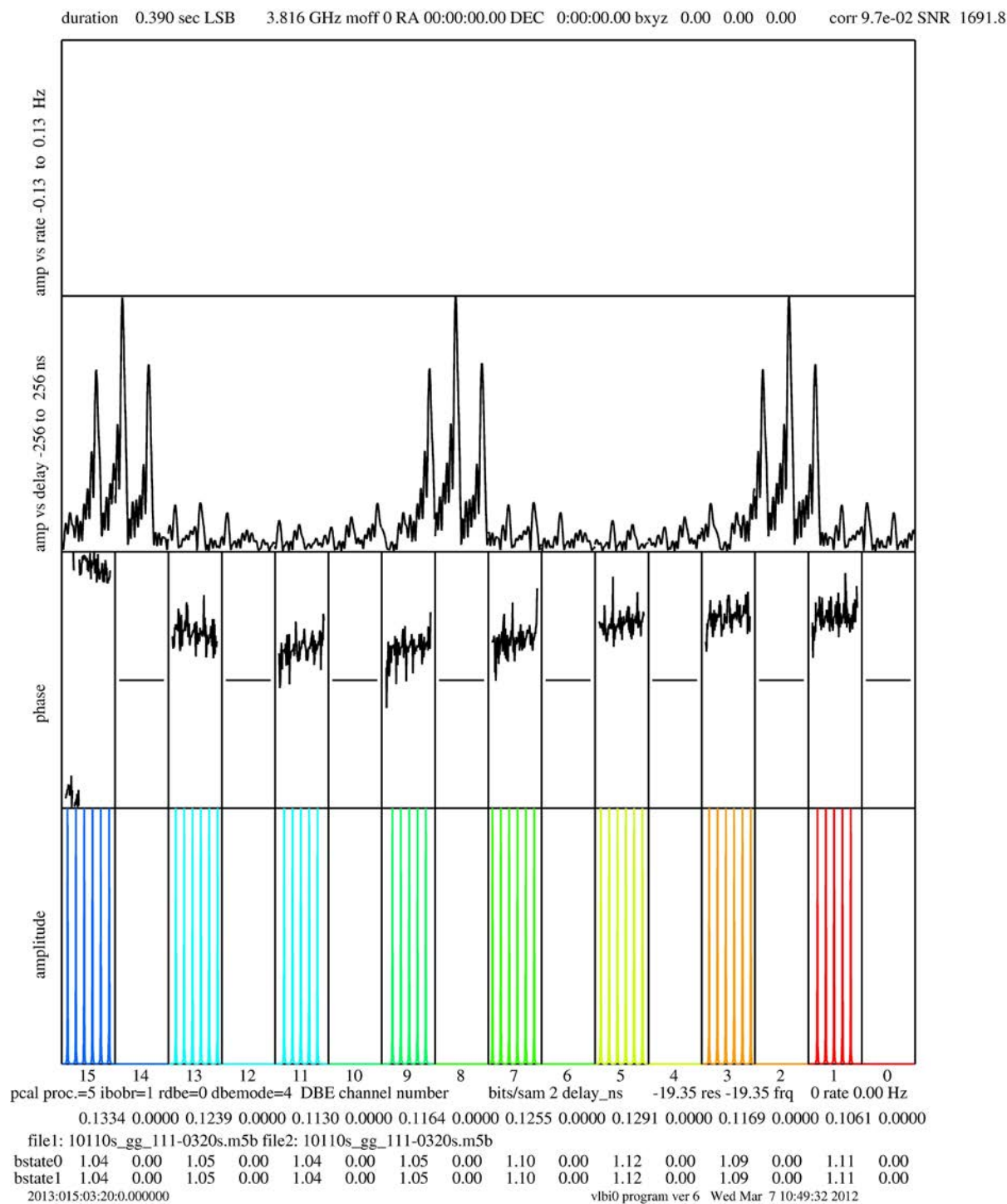


Fig 2.

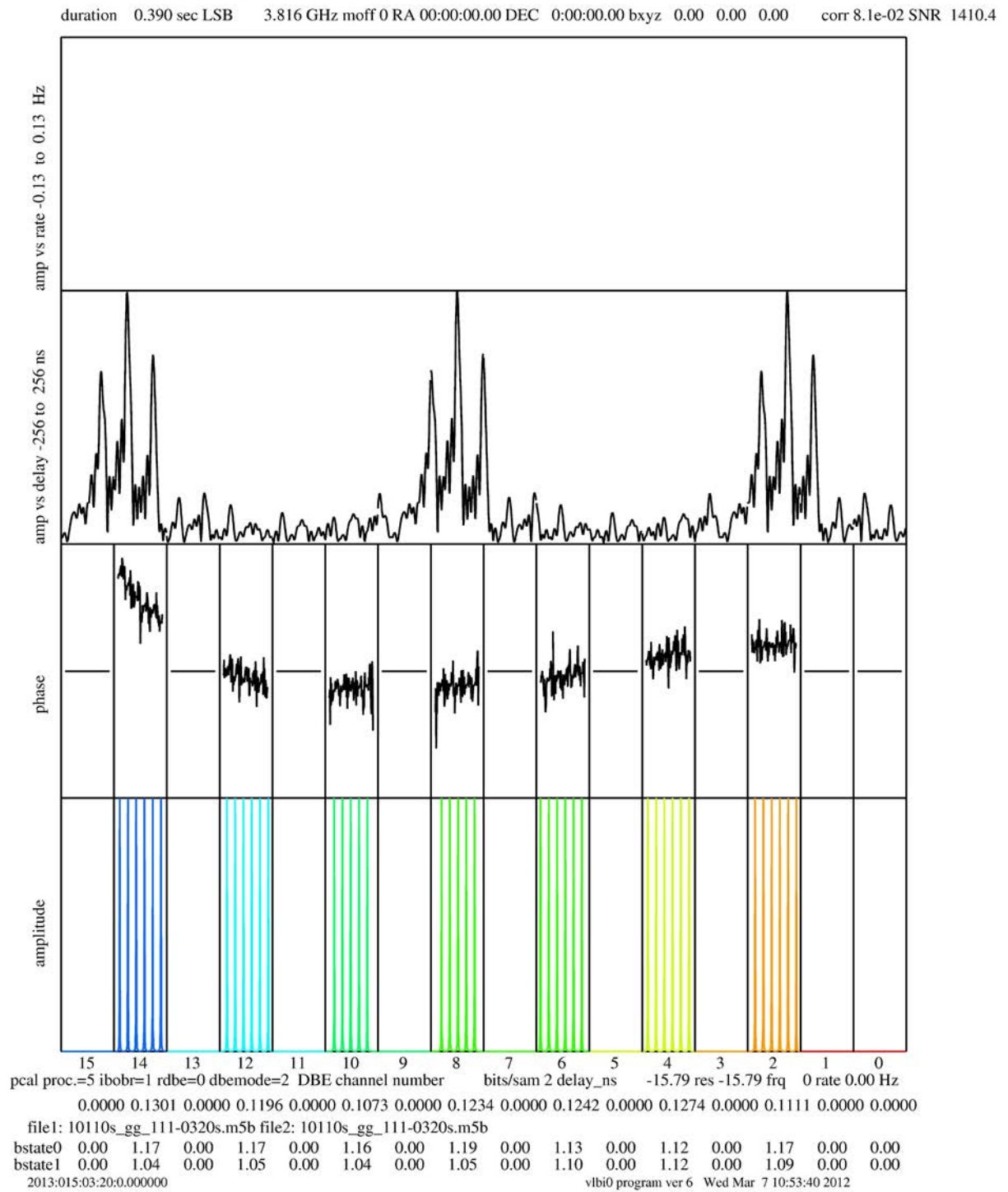


Fig 3.

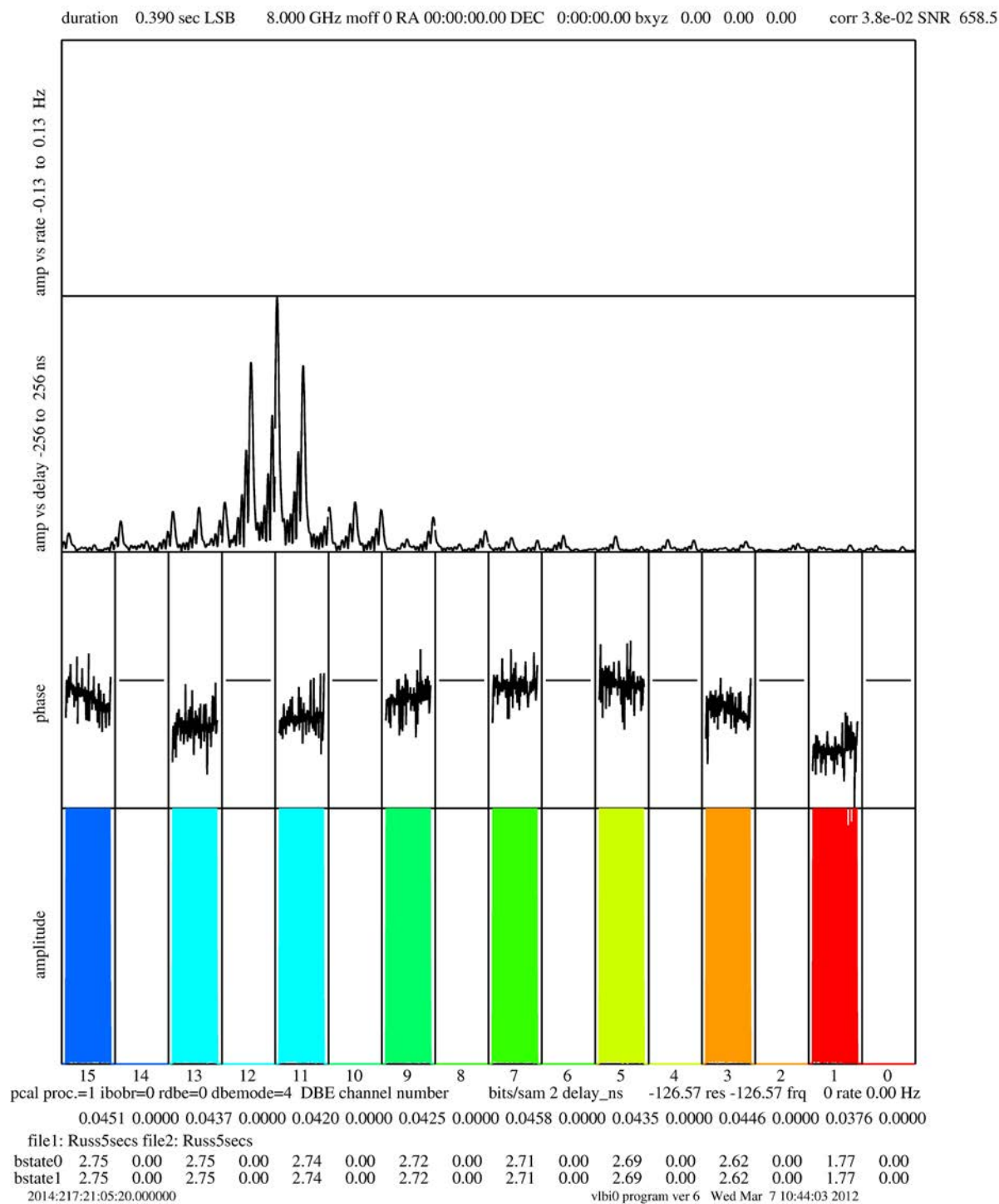


Fig 4.

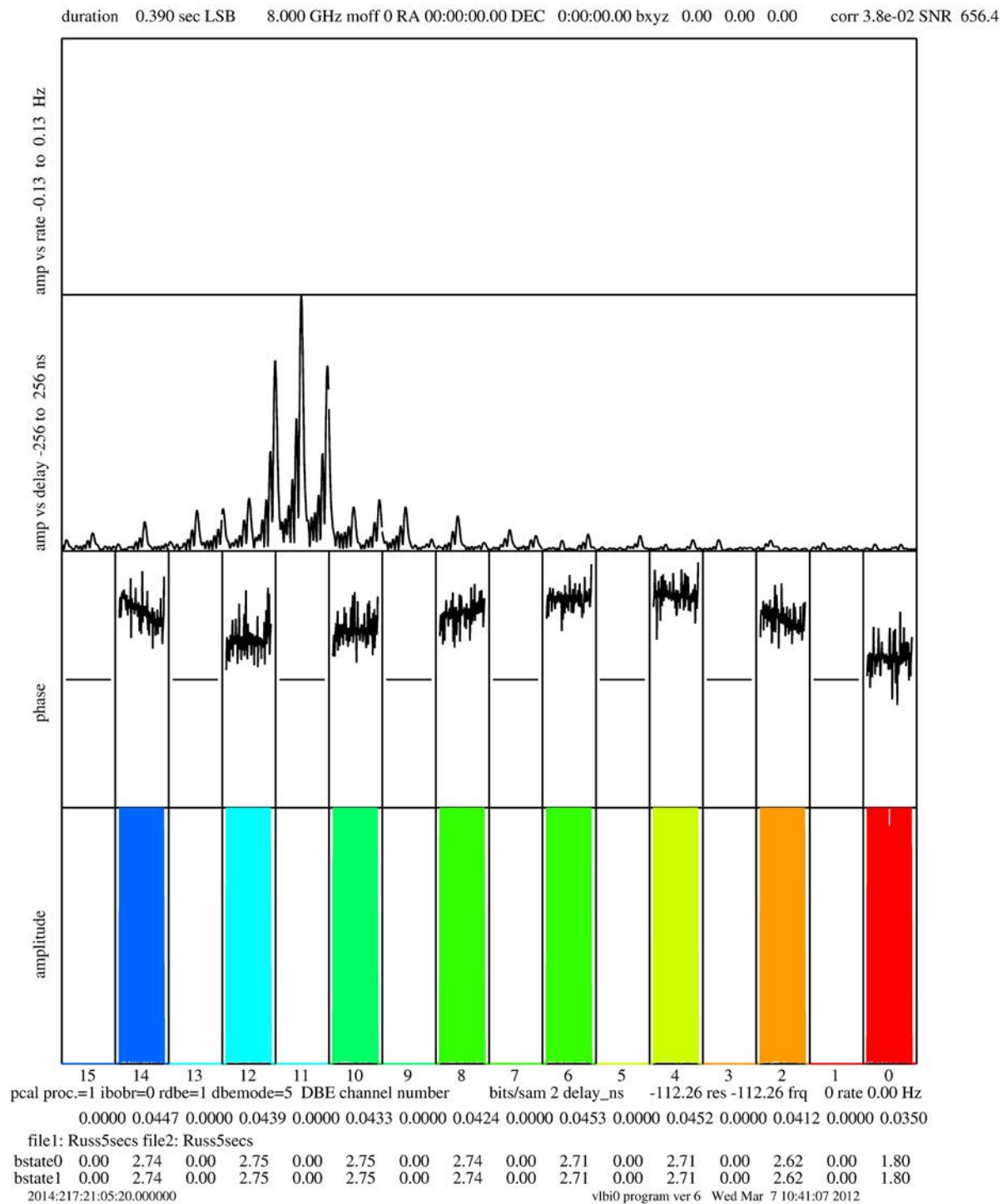


Fig 5.