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## UPPER LIMIT GROUP LEADERS MEETING

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**DATE:** 31 January 2001  
**TO:** S. Anderson, J Romano, P Fritschel, P Saulson, P Brady, K Blackburn,  
R Weiss, P Shawhan, A Lazznerini  
**FROM:** Patrick Brady  
**RE:** Minutes of 23 January 2001 meeting

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1. In attendance S. Anderson, J Romano, P Fritschel, P Saulson, P Brady, K Blackburn, R Weiss, P Shawhan, A Lazznerini.
2. Wiseman stated the goal for the upper limit groups is to do science the way we plan to do science. We should be ready to analyze data from the September  $E_n$  data run with a report to follow in late fall and a submitted paper after that. It was generally agreed that we would have been pressed to develop our pipeline by June, but September is a realistic goal.
3. Blackburn estimates that LDAS will be ready to provide a data flow pipeline as early as March 2001. The two missing components are the Data Conditioning API and the Event Monitor API. A great deal of discussion followed about the functionality required of the DC API. The general consensus was that data conditioning should generally be handled at this level in order to avoid duplication of effort in the data pipeline. It was also generally agreed that the complete functionality is not needed to perform basic searches.
4. Romano pointed out that the design of the DC API intends to provide functionality similar to that of the MATLAB data processing toolbox. The things that belong in the DC unit should be developed for it and not temporarily for another place in LDAS. Brady pointed to the need for a pipeline over the need for complete functionality in the DC unit. Wiseman concurred and emphasized this need.
5. Wiseman mentioned that part of the current problem with planning is that the LSC is not fully aware of how LDAS fits into the data analysis plan for LIGO. He will work with Rai Weiss to have a presentation at the next LSC meeting.
6. Wiseman mentioned that *inchpebbles* – mini mock-data challenges intended to test the data flow pipelines for various searches – and asked when they could be scheduled. The inch-pebbles should slot code into LDAS and verify this search code; scientific validation is separate from the inch-pebble. Brady volunteered the Inspiral group to lead off with this effort in May. Anderson said that the CW group could be ready in June. It was agreed that these inchpebbles should be performed at Caltech since access to LDAS programmers will be essential to handle problems that may be encountered.
7. The off-line analysis pipeline still needs to be worked out: who will do the analysis, where, what still need to be figured out. Anderson stated that most of this analysis might happen on-site although off-line.
8. Brady asked if it would be reasonable to move the data to various LSC institutions. Barish indicated that there was no problem with this provided data exchange agreements were in place. How to interface analysis performed off-site with those performed on LIGO laboratory facilities: in particular, database injection or management details have not been worked out for such a model.

9. Shawhan explained that remote injection is possible. This database issue is a practical one that needs to be solved. If LSC institutions decide to get the DB2 software, they will have responsibility for back-ups and database administration which will be very significant. Wiseman asked Shawhan to look into the possibilities.
10. Search specific issues. Bringing data together can be done by mailing tapes to different institutions. It is already planned to exchange data from each site.
11. Continuous wave searches. Anderson said their group plans only to look for waves from known pulsars with phase evolutions accurately known from electromagnetic observations. Area searches are not yet planned for in the working group. There is time available at CACR for LIGO computations. These resources can be used for the big analyses. Weiss was enthusiastic about enlisting the AEI or another group to performs searches of, say, the galactic center for continous sources of gravitational waves. Weiss said that this would be discussed at the executive committee.
12. Weiss, Whitcomb and Sigg are working on providing the response function and the power spectrum for the purposes of data analysis. Lazzarini emphasized that we would need this sooner than mid May; March would be better. The method should be stable and definite; we should put this information in the frames since that is in line with what VIRGO plans to do.
13. The next meeting is scheduled for 6 February 2001 at 14:30 CST.
- 14.