at the coherent and incoherent combined focii which have not been exploited so far. On the other hand it was repeated that some vital science goals, particularly related to DM and DE, require wide-field surveys and large amounts of observing time. For imaging at least there seemed to be a concensus that this might be better done by dedicated survey telescopes (including VISTA) on the ground or in space and that priority for supporting these science objectives should be given to more multi-object spectroscopy. Some proponents of this argued that the ideal would be a > 1 deg field, but if this proved too difficult or costly then at least an attempt should be made to exploit better one or more of the 0.5 deg Nasmyth fields, e.g. by adding a near-infrared spectrograph to the FLAMES facility.

Support was also forthcoming for extending the AO imaging capabilities of the VLT using the AO Facility + MCAO, but not necessarily at the expense of other powerful applications including spectroscopy. Questions were also raised as to the availability within the ESO community of the resources needed to realise all these new powerful instruments on the VLT, VLTI and ELT. As yet, there is no definitive answer but an optimistic prognosis based on the increase in the number of ESO member states and instrument groups since the start of the VLT development. Many groups may also be particularly and specifically interested in exploiting VLT/I for its unique scientific capabilities and/or as a testbed for ELT pathfinder instruments or technology.

The talks and posters will be published as both paper and ebooks in the Springer Astronomy and Space Science Proceedings series.

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Report on

ALMA Community Days

held at ESO Headquarters, Garching, Germany, 3–4 September 2007

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The third of the ALMA Community Days was held at ESO Garching in September 2007. Prospective ALMA users were updated on the progress of the ALMA project, the plans for operations and for the ALMA Regional Centres (ARCs). The meeting was a lively forum for the discussion of the detailed organisation of the network structure for the European ARC.

The third European ALMA Community Days took place in Garching on September 3 and 4, 2007. The previous ALMA Community Day took place in September 2004 (see Messenger, 118, 67). More than 120 people from the astronomical community came to learn about the progress of the ALMA construction and the plans for operations, as well as to discuss the organisation of the ALMA Regional Centre in Europe. The meeting was sponsored by Radionet, which provided funding for many of the participants to travel to Garching.

The workshop was opened with a welcome from the new ESO Director General, Prof. Tim de Zeeuw, who reassured the audience of astronomers that one of the top priorities of ESO is to deliver the ALMA observatory on time and on budget, in order to allow timely exploitation of its full scientific potential. Prof. Massimo Tarenghi, ALMA Director, reported on the enormous progress in the construction activities in the last few years. Three years ago, at the time of the last European ALMA Community Day meeting, ALMA was still mostly a project 'on paper' with only a few of the pieces of prototype equipment being designed and built. In September 2007, most of the site infrastructure at both the Array Operations Site (AOS, Chajnantor Plateau 5 000m) and the Operations Support Facility (OSF, at a more comfortable altitude of 2 900m) is either completed or on track to be completed by the beginning of 2008. Five production antennas are being assembled and tested at the OSF, with more being manufactured in Europe, North America and Japan. The first front- and back-end sets are being integrated and a full quadrant of the correlator has been completely assembled, tested and is being packed for shipment to Chile and installation at the AOS Technical Building.

Alison Peck, ALMA Deputy Project Scientist, illustrated the plans for commissioning and for the initial opening of the

Figure 1: Opening of the ALMA Community Days in the auditorium of the Max-Planck Institut für Plasmaphysik in Garching.

ALMA observatory to users – first through participation in the Science Verification activities and then with the Early Science Call for Proposals, planned for 2010. It was pointed out that there is the possibility for astronomers in the community to be involved even earlier in the Commissioning phase of ALMA by going to Chile for extended periods with ESO support. The points of contact for expression of interest in Europe are the European ALMA Project Scientist (Leonardo Testi), the national representatives in the ALMA European Science Advisory Committee (ESAC) and the representatives of the European ALMA Regional Centre.

The workshop proceeded with a report on the status, scientific results and opportunities provided by the ALMA pathfinders, which are some of the current leading millimetre observatories (APEX, IRAM, JCMT and SMA). A number of interesting scientific results and prospects were highlighted by contributions, mostly from young fellows and postdocs, who form an army of enthusiastic future ALMA users. Neil Nagar illustrated the current developments of the astronomical institutes in Chile. The millimetre community in the ALMA host country is rapidly growing to ensure full and timely use of their share of observing time.

Another important focus of the Community Days was the presentation and discussion of the current plans for scientific ALMA operations and user support. Lars-Åke Nyman, Head of the ALMA Department of Science Operations, and the three ALMA Regional Centre (ARC) managers, Paola Andreani (ESO), John Hibbard (NRAO), and Ken Tatematsu (NAOJ), illustrated the current operations plan and the proposed implementation. The North American ARC will be located in Charlottesville (USA), but will also collaborate with various institutes in the USA and Canada. The East Asia ARC will be located in Mitaka (Japan), serving the Japanese and Taiwanese astronomical communities.

The status and planning for the European ARC was presented in detail. This will have a network structure with a core node at ESO and at least six nodes in as many European countries. The core node at ESO will be responsible for carrying out all the ARC core functions (all stages of managing observing proposals and projects, data handling and archiving, maintenance of documentation) and to coordinate the overall activities of the European ARC. The ARC nodes will be responsible for many science-enabling functions essential for the astronomical community to take full advantage of the scientific potential of ALMA. Their activities will include face-to-face user support at all stages from proposal preparation to data reduction and analysis. Each ARC node will specialise in providing advanced support in specific areas (e.g. high-frequency observations, polarisation, mosaicing, surveys, etc.) and their services will be open to all ALMA users. Postdoctoral programmes will be carried out by the whole ARC.

The current status and activities of the European ARC nodes were presented by representatives: Frank Bertoldi (Germany); Jan Brand (Italy); Tom Muxlow (UK); Hans Oloffson (Nordic countries); Karl Schuster (IRAM); Floris van der Tak (the Netherlands). These talks were followed by a discussion session led by José Afonso, Chair of the ALMA European Science Advisory Committee. The response from the community was generally very positive on the proposed support and competence of the various ARC nodes; the possibility for users to access ARC nodes outside their own country to use the services provided by the most experienced groups was highly valued. There was strong support to advance to the next step of ARC organisation by formalising the roles of the ESO ARC core and of the various ARC nodes. This would also help the ARC nodes to secure the required funding from their own national funding agencies and possibly the European Commission.

The programme and presentations from the ALMA Community Days can be found online at: *http://www.eso.org/projects/alma/science/meetings/gar-sep07/agendas.html.*

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