



8 August 2016

Response of the National Committee for Astronomy to the VR/RFI evaluation of the future of Swedish radio astronomy and Onsala Space Observatory.

This response is based on a presentation of the main (draft) conclusions by the chairman of the evaluation group, Prof. Göran Östlin, at a meeting of the National Committee for Astronomy (NCA) in Stockholm on 16 June 2016. It should be noted it is not based on the text of the final report.

NCA regards Onsala Space Observatory (OSO) as a success story within Swedish observational astronomy, and recognises its fruitful adaptation of radio astronomical techniques and methods to the area of observational geoscience. OSO has played a particularly successful role for Swedish technological development and industrial involvement in international radio astronomy infrastructures, such as APEX, ALMA, LOFAR, SEST, SKA, and VLBI. Crucial to this has been the generous support for its operation from VR/RFI as a national facility, and from Chalmers. NCA notes that one of the major challenges for OSO in the future is to retain the existing highly skilled and dedicated staff, accustomed to having new and interesting projects on the horizon, under conditions of changing funding and priorities.

NCA understands the need for and welcomes the discussion around the future of Swedish radio astronomy and of OSO as a national facility leading Swedish activity in this field, which is particularly timely in light of possible participation in SKA. NCA appreciates the need for prioritization and for assessment regarding whether activities are appropriate to national facilities with funding from VR/RFI. The NCA generally agrees with the list of priorities set out by the panel¹, in particular regarding the importance of participation in SKA for the future of Swedish astronomy in general. The NCA also has some concerns, which are detailed below.

The first is a general comment:

- NCA emphasizes the need for a comprehensive strategic consequence analysis of the proposed actions.

For instance, the proposed actions may lead to a situation where VLBI is left as the only remaining observational activity at OSO after 2022, and even this is uncertain. A national facility without their own instruments for development of both technology and the user community will not be able to compete at the forefront of new developments internationally. NCA note in this context that the Astronet ETRC report strongly recommends that operating national radio astronomy observatories should be maintained in Europe also in the era of ALMA and SKA (the text reads "We see a need for closer collaboration between the existing radio observatories, but not their assimilation into a large conglomerate: their local and independent role remains crucial to provide support to observers, and technical innovation to the field"). This is also reflected in recent major European investments in radio astronomical infrastructures such as the Italian 64m radio telescope in Sardinia, the Spanish 40m

¹ Note, the NCA has no opinion on the geoscience activities since they lie outside its area of competence



radio telescope in Yebes, the renovation of the 100m Effelsberg radio telescope in Germany and of the 75m Lovell telescope at Jodrell Bank (UK), and the building of the International LOFAR Telescope.

Further, NCA would also like to point out the strategic importance of the Onsala 20m telescope for the development and testing of mm-wave instrumentation, as well as for the education of a well-trained Swedish user base within observational mm/sub-mm astronomy. This telescope is one of few radio telescopes in the world operating regularly at 4/3mm with state-of-the-art receivers. In addition, the future of GARD will be highly uncertain if OSO ceases to be an active observatory.

The National Committee recognizes the central role of the OSO steering committee in defining the future strategy of OSO and urges a close dialogue between this body and the RFI council in forming an overall strategic vision for the future of OSO.

Regarding more specific aspects of the evaluation:

- NCA sees GARD as an integral part of the OSO's mm/sub-mm activity, and fully support that it was given highest priority by the panel. However, with its importance for the large national mm/sub-mm community and recognised strategic importance for Swedish involvement in international radio astronomical infrastructures, NCA finds it difficult to see why this isn't clearly "research infrastructure of national interest" and thus "may not be fully appropriate for support by RFI". Precise clarification from the panel regarding what criteria are not met would be welcome.
- The "open sky" policy has served international astronomy well, and NCA notes that the Astronet ETRC report strongly endorses the "open sky" policy, as does the EU Transnational Access program. The reduction of the Swedish share in the APEX project, based directly on the size of the Swedish user base, could have the consequence that Sweden abandons the "open sky" policy. NCA suggests that some open access should remain, and would welcome a statement along these lines from the panel. NCA further notes that direct coupling between the Swedish user base and the Swedish share represents a shift in principles, the consequences of which (such as on open access) should be carefully considered.
- The NCA is concerned about the possibility of delays in the construction of the SKA and negative consequences for the operations of OSO if cost-saving actions and strategic planning are decided too rigidly in advance. As commented by the OSO steering group, it would be useful to see the proposed priorities in a time perspective, including possible contingencies regarding the funding and strategic planning for OSO in the case of delays for SKA.

The NCA considers that the report of the panel will be an extremely important document for the future of Swedish radio astronomy and OSO, and hopes that these points can be considered in the final report.