

ASSA Instrumentation Section Report – June 2020

Activities of the Instrumentation Section continue to largely revolve around communication, outreach, guidance and education, plus the important aspect of encouraging people in the pursuit of their personal instrumentation projects. There is no drive to formally induct members into the Section. Rather, the approach has been to address ASSA members' ad-hoc needs for information on a case by case basis.

In support of the Society's general communication efforts, which equally support the instrumentation Section's goals, the following activities are ongoing:

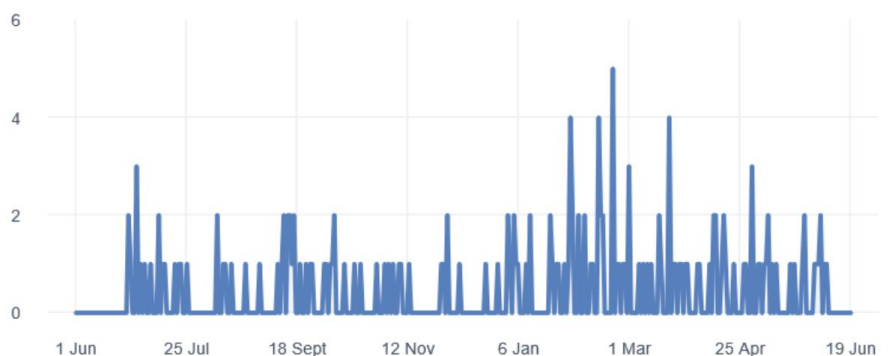
- Moderate the ASSA FaceBook page
- Moderate the .IO group mail lists
- Moderate the Telescope Making SA FaceBook page

The Section directly supports the needs of both ASSA members and the general public regarding selection, construction, purchase, maintenance and use of instrumentation. This is mostly done via the Amateur Telescope Making (ATM) class, the Telescope Making SA FaceBook page, e-mail correspondence, telephonic discussion, WhatsApp/SMS, and ScopeX.

The distinctly South African "Telescope Making SA" Facebook group attracts members from around the world. International involvement produces an energetic flow of ideas, information, technical assistance and encouragement. Some of the (at times unusual) approaches to instrumentation developed locally have, after being highlighted in this medium, been favorably received and copied abroad. Prospective members are vetted prior to admitting them to the group and appropriate behaviour is gently but firmly enforced. At the time of writing, the Telescope Making SA Facebook page currently has 907 members, an increase of 53 since the last report. Of the 608 participants from 100 towns/cities in 89 countries who have been active during the last year, 85 are female. A total of 165 Posts were contributed during this time, with a noticeable surge in activity during the Covid-19 era as people in lockdown had more time and need to communicate via this medium.

Jun 1, 2019-Jun 19, 2020

165 Posts



The ATM class has been continuously active since mid-1991, with expertise, materials and useful components freely shared for individuals' projects. It attracts a steady stream of newcomers to the art, with a good success rate of people finishing their first instruments. In addition, after completion of their first telescope, a fair number of participants stay on or return in order to tackle more advanced projects. Members come and go according to their needs and available time, work at their own pace on individual projects, and sometimes return after a long hiatus dictated by personal circumstances. The class is run informally in a flexible manner to accommodate the vagaries of members' lives. Consequently, there is no way to ascertain the actual numbers of people or projects engaged in at any one time. Membership of ASSA, whilst encouraged, is not a prerequisite for participation in the ATM class. A class register is kept as an indication of activity levels, but signing it is not enforced. Recorded attendance over the previous 2 years averaged at 8 people per week, but as with other social activities the class has been in lockdown due to the pandemic so no reasonable comparisons can be drawn this year. Apart from the Facebook interactions, there has been limited exchange of e-mails, phone calls and WhatsApp messaging. Following an easing of restrictions, it was possible to distribute some mirror making materials.

Etsuo Takayanagi, our experienced telescope maker from Japan, concluded optical fabrication for an 8" Cassegrain. The tolerances on these mirrors are extremely tight, requiring accurate measurements during figuring. He, with assistance from the Director, published a useful article in MNASSA on design, fabrication and testing of convex hyperboloidal Cassegrain secondaries. This is particularly valuable because practical information on the subject is extremely hard to find.

Percy Jacob has not only refined the spectrograph he produced in the previous year, but is now in the process of constructing a higher-resolution variant in order to better serve the scientific community's need for quality spectra of chronically underrepresented southern hemisphere objects.

3D printing has come of age to the extent that capable printers at prices affordable to enthusiasts are now available. Although not necessarily up to the strength and precision of machined parts, they enable fabrication of complex structures beyond the traditional capabilities of amateurs and are cheaper than conventional workshop machine tools. Their versatility, together with the ability to share CAD files and to flawlessly replicate multiple parts without much supervision, has resulted in rapid uptake within the telescope making fraternity. Johan Smit and Chris Curry are local examples who not only are designing ingenious components to raise the bar in professional finishes, but also generously assist others by printing useful components. An example is a batch of eyepiece body components printed by Johan, which enabled the Director to easily construct several eyepieces of his own design for distribution to deserving amateurs.

The 18th annual ScopeX event was successfully conducted, with similar attendance figures to the previous year. Concurrent changes in a variety of unconnected circumstances unfortunately make the likelihood of continuing an event of this nature extremely slim.

Overall, the foregoing indicates a continuing healthy level of activity and interest.

--- *Chris Stewart*