

2014 Annual Report. Cosmology Section of the Astronomical
Society of Southern Africa.

1. Purpose

- (i) To disseminate news of importance in the field of cosmology to members;
- (ii) To circulate scientific papers in the field of cosmology to members;
and
- (iii) To do research and promote the study of cosmology as a science.

2. Membership

The number of members at the end of 2014 was 15.

The year was marked by an unfortunate incident when the director was unable to get access to his account with Google. A word of thanks must go to Mr. Maciej Soltynski and Mr. Case Rijdsdijk who attempted to help solve the problem. Mr. Chris Stewart solved the problem by creating an account with Yahoo which is working well. Many thanks to Chris. After the new account was established it became clear that a number of members have resigned without Google advising the director. A number of former members advised Mr, Stewart that they did not wish to continue with membership. Since then there has been a steady increase in the number of members.

3. Activities

In the course of the year the director completed successfully an online course: "From the Big Bang to Dark Energy" presented by Prof. Hitoshi Murayama of the University of Tokyo.

A total of 3,240 messages were sent/received and a large number of matters were covered. The discovery of the Higgs boson at the LHC and the implications thereof for the Standard Model of Particle Physics remained in the news. Primordial galaxies and the discovery of a satellite dwarf galaxy of the Milky Way consisting of pristine hydrogen received attention. Quasars and the role of supermassive black holes in the evolution of galaxies as well as

Population III stars were discussed. Doubts about the cosmic inflation of the early universe were raised but there is currently no better explanation for the cosmological principles of homogeneity and isotropy. It was reported that new stars were observed which were born around black holes. After Gamma Ray Bursts were recorded scientists could normally observe the afterglow of the stellar explosion. An exception to this “rule” was found since there was no afterglow of the explosion. The explanation offered was that the explosion was possibly caused by a not a very massive star. Comets, supernovae and collisions of galaxies were reported.

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