Conference explores abundance of elements in understanding the universe

Key questions related to abundance of elements and their inferences in understanding the physical universe starting from big bang to the present were explored at the international conference to celebrate the 150 years of the periodic table organized by the India Institute of Astrophysics (IIA).

Scientists from a range of disciplines deliberated on the origin, evolution, and abundance of all the chemical elements in the universe. Dmitri Mendeleev had formulated the system of listing of chemical elements in the periodic table based on their physical and chemical properties. Scientists are now exploring their origin and evolution.

Experts discussed solar and solar system abundances, standard cosmic abundances, sites for formation of chemical elements, abundance distributions in disk (thin, thick, ultra-thin) and halo of our Galaxy, nuclear processes for generation of elements, historical developments, etc.

The conference was inaugurated by Chief Guest Professor V. S. Ramamurthy, former Secretary, Department of Science & Technology. Scientists spoke on ways of carrying out studies both in lab and sky, and a public talk by Professor David Lambert, University of Texas at Austin, USA, and Honorary Fellow of IIA was also held.

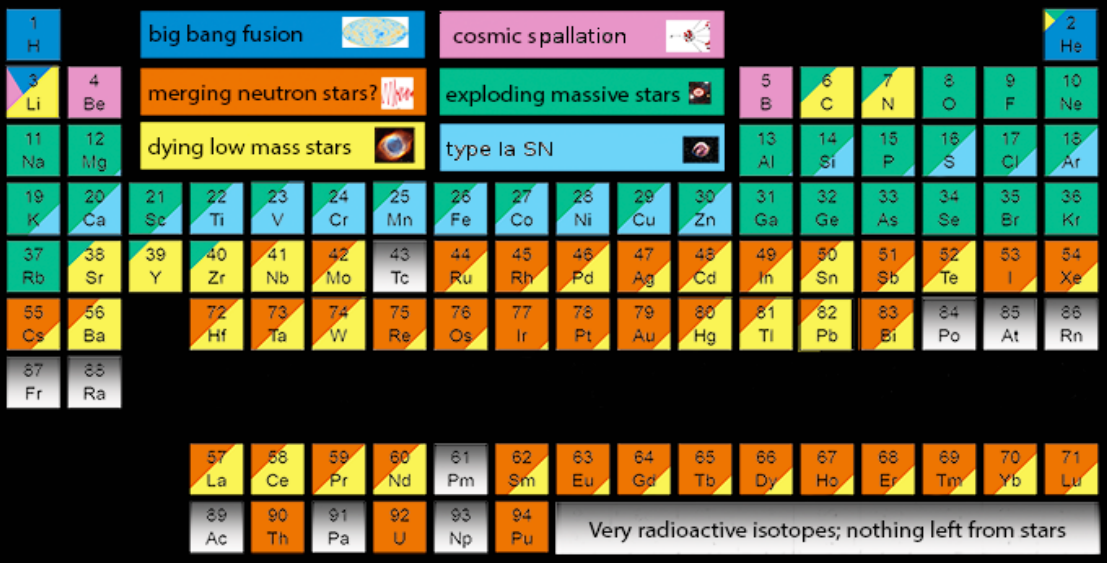
Prof. Gajendra Pandey, Associate Professor, IIA said that one of the main purposes in organizing this conference was to highlight the work on chemical elements – their abundances and distribution in stars. These stars include Sun, our Galaxy the Milky Way and also interstellar medium and other galaxies. A lot of this work has been done in the past and being pursued now, in particular at IIA, as well as other institutions in India.

"Professor Vainu Bappu, the Founder Director of IIA was keenly interested in high resolution spectroscopy and elemental abundances in stars. He worked on elemental abundances in Cepheids among other things. He also designed a high resolution spectrograph for 1- meter telescope at VBO, " he added.

The conference also took stock of progress of understanding in the last 60 years, and highlighted the upcoming spectroscopic surveys and mega facilities that will be instrumental in answering some of these fundamental questions. This conference was highly beneficial for students and young researchers working in this field.

The year 1869 is considered as the year of formulation of the Periodic System by Dmitri Mendeleev. The year 2019 was the 150th anniversary of the Periodic Table of Chemical Elements and has therefore been proclaimed the 'International Year of the Periodic Table of Chemical Elements (IYPT2019)' by the United Nations General Assembly and UNESCO.

The Origin of the Solar System Elements



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