

[IS1] Changing Tide in Producing and Sharing Astronomical Research Outputs in the 21st Century

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We report an investigation of how international and domestic astronomers have been working together and producing their research products over the last 20 years. The academic papers from 5 leading international journals (e.g. Ap.J, Ap.JS, MNRAS, A.J, PASP) and 2 domestic journals including JKAS since 1980 were investigated in depth. The variables under investigation include annual statistics in number of papers, authors, cited references, countries and of institutes. The data were then co-related to the development of major astronomical instruments world-wide over the last two decades. The prediction followed from the data and model analysis brings advances in our understanding of how international astronomers will be producing and sharing the research outputs together through the first half of the 21st century. The implications to the Korean astronomical community will also be presented.

[IS2] The X-ray Astronomy Satellite Astro-E2 and the Guest Observer Program

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Astro-E2 is the 5th X-ray astronomy satellite of Japan developed under the Japan-US collaboration. It will be launched with the M-V rocket from Japan in early 2005. After the proprietary time for the Astro-E2 team, most of the mission time is awarded to the guest observers all over the world (including Korea) on a competitive basis.

Astro-E2 is characterized by an extremely high energy resolution in the soft X-ray band and the wide-band coverage from 0.2 keV to 600 keV. The primary instrument of Astro-E2 is the micro-calorimeter operated at 60 mK. It achieves an energy resolution of 6-7 eV at 6 keV, which is a factor of 20 better than the X-ray CCD. X-ray CCD cameras are also used to take soft X-ray images. Above 10 keV is covered by the non-imaging hard X-ray detector. It is a high-sensitivity, hybrid detector consisting of Si pin diodes and scintillation detectors.

Astro-E2 enables high resolution spectroscopy in the iron band for the first time. Because many X-ray sources have iron structures (emission/absorption lines and edges) in the energy spectra, Astro-E2 is expected to bring new insight in our understanding of X-ray sources. We would like to encourage Korean astronomers to take this opportunity to utilize the unique capability of the Astro-E2 satellite.