The Booming Astronomy and Space Exploration

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Starting in the 90's, astronomy began to blossom with many significant discoveries. An irrefutable indicator is that Nobel prize in physics has been awarded to astronomy-related researches for 4 times in the past 8 years, covering the fields of neutrino, black holes, exoplanets, and gravitational waves. However, the means of astronomy observing rely increasingly heavily on space probes, bringing us new insights on frontier studies such as exoplanets with Kepler, early universe with JWST, and dark matter and dark energy with Euclid, to name a few. Astronomy and space developments share more common ground than ever, from low earth orbit platforms, to lunar and Mars in-situ studies, and to the deep space explorations of outer solar system. We thus design a curriculum for this camp emphasizing both astronomy and space, and their interaction and cooperation. Current status of space development in US, China, and Taiwan will be introduced and discussed in the lectures and in the forum. We will also touch upon issues like low earth orbit satellites contaminating the night sky, the innovative applications of cubic satellites, and lives elsewhere in our solar system, in the evening sessions of Introduction and Discission of Cutting-Edge Topics.