

【Mathematics/Physics】

<b>Title of Project</b>	A Study of the Evolution of Large Scale Structures Based on the Ultra Wide Band Millimeter And Submillimeter Observations
<b>Principal Investigator Name</b>	Kotaro Kohno, The University of Tokyo, School of Science, Associate Professor
<b>Abstract of Research Project</b>  <b>Number of Researchers : 8</b>  <b>Term of Project: 2008–2012</b>	The goal of the project is to unveil the evolutions of the true star formation activities and large scale structures in the early universe. First, we will conduct unprecedented millimeter/submillimeter-wave surveys, which are very efficient to detect dusty starbursts in the early universe. A large numbers of dust enshrouded massive young starburst galaxies will be uncovered. Because they are often invisible in optical and infrared observations, it could be referred as “dark galaxies”. The distances (or epochs) of them will then be determined based on our own methods. We will build a multi-color camera and ultra-wide-band spectrometers using superconducting devices, and they will be mounted on the new submillimeter telescope ASTE in Chile and other telescopes. From these results, we will unveil the true history of the cosmic star formation. The evolution of dark matter distributions will also be addressed through the analysis of clustering properties of galaxies.