

Principal Researcher	Shuji HASEGAWA			Number of Researchers	2	
Research Institution • Department • Title	Associate Professor, Department of Physics, University of Tokyo			Location of Institution	Bunkyo-ku, Tokyo	
Title of Project	Development of Green's function STM and its application to study of nano-electronic transport dynamics					
Abstract of Research Project	The aim of this research project is to develop a 'Green's function STM (scanning tunneling microscopy)' method, which is a natural extension of our original 'four-tip STM' method, and to apply this method for studying nanometer-scale electronic transport dynamics. In the Green's function STM, multi-tips are controlled precisely and brought close to each other within less than the coherence length of carriers in the sample. A response to the perturbation given through one of the tips is detected by other tips, giving non-local responses, i.e., Green's function. This will be a kind of ultimate measurement method for nanometer-scale electron systems, and be an important tool for nanoscience and nanotechnology.					
References	<ul style="list-style-type: none"> <li>- S. Hasegawa, I. Shiraki, F. Tanabe, and R. Hobara: Transport at surface nanostructures measured by four-tip STM, Current Appl. Phys. Vol. 2, pp. 465-471 (2002).</li> <li>- S. Hasegawa and F. Grey: Surface electronic transport: -From point-contact transistor to micro-four-point probes-, Surface Science Vol. 500, pp. 84-104 (2002) .</li> </ul>					
Term of Project	Fiscal years 2003-2007 . (5years)					
Budget Allocation (in thousand of yen)	FY2003	FY2004	FY2005	FY2006	FY2007	TOTAL
	43,200	15,600	10,900	10,900	4,300	84,900
Homepage Address	<a href="http://www-surface.phys.s.u-tokyo.ac.jp">http://www-surface.phys.s.u-tokyo.ac.jp</a>					