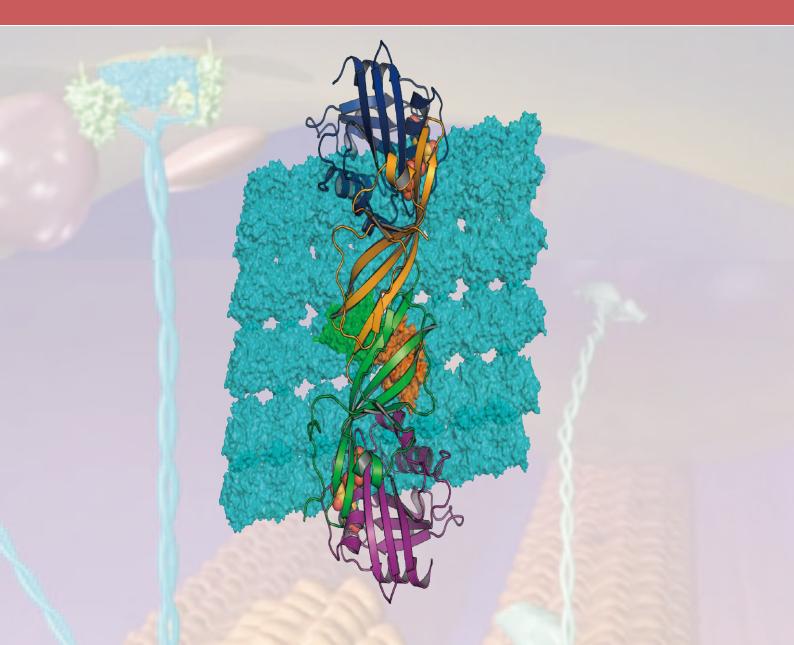
## Highlights



## HIGHLIGHTS

	e and Molecular Science Evidence of Single-Photon Two-Site Core Double Ionization of C <sub>2</sub> H <sub>2</sub> Molecules	12
2. Materials Science		
2-1	Inkjet Printing of Single-Crystal Organic Semiconductors	
2-2	Confinement of Strongly Correlated Electrons in Oxide Artificial Structures	
2-3	Chemically Homogeneous and Thermally Reversible Oxidation of Epitaxial Graphene:	
	A Step Towards Better Performance Graphene-Based Electronics	
2-4	Origin of the Large Electric Polarization in Multiferroic Orthorhombic YMnO <sub>3</sub> Thin Films Revealed b	у
	Soft and Hard X-Ray Diffraction	
2-5	Key to the Metallic Conduction Found in an Insulator-Insulator Interface	
2-6	Magnetic-Field Control of Ferroelastic Domains in FeCr <sub>2</sub> O <sub>4</sub>	
2-7	Unconventional Mass Acquisition of Surface Dirac Fermions in a Topological Insulator	
2-8	Structural Study of the Unique Ferromagnetic Metal-Insulator Transition in Hollandite $K_2 Cr_8 O_{16}$	
2-9	Study of Structural Phase Transition of Pt-Induced Nanowire on Ge(001) Surface using Reflection	
	High-Energy Positron Diffraction	
3. Chemical and Environmental Science		32
3-1	Quantum Effect and Anharmonicity in an Invar Alloy Studied by EXAFS Spectroscopy	
3-2	Combined in Situ QXAFS and FTIR Observation of a Ni Phosphide Catalyst - Determination of	
	Active Species for a Hydrodesulfurization Reaction -	
3-3	Structural Basis for the Single Active Site to Catalyze Two Distinct Reactions in a Primitive	
	Enzyme FBPA/P	
3-4	Observation of Structural Change upon Photoinduced Electron Transfer of	
	9-Mesityl-10-methylacridinium Ion by Pump-Probe X-Ray Crystal Structure Analysis	

4-1	and Planetary Science Synchrotron-Radiation X-Ray Analysis of HayabusaReturned Asteroidal Samples Observation of the Structure of Adsorbed Water on a Mica Surface to Understand the Mechanism of Creeping Faults	40
5. Life Science		
5-1	Discovery of Flowering Hormone (Florigen) Receptor and Its Crystal Structure	
5-2	Crystal Structure of Channelrhodopsin, a Light-Gated Cation Channel: All Cations Lead through the Monomer	
5-3	Structural Analysis of the Mammalian Cell Polarity Protein Complex mInsc and LGN	
5-4	Structural Basis of Measles Virus Entry and Effective Measles Vaccine	
5-5	Structural Basis of Arf6-MKLP1 Complex Formation on the Flemming Body Responsible for Cytokinesis	
5-6	Crystal Structure of the Rotor from V-ATPase Molecular Motor	
6. Imaging and Optics		56
-	Refraction-Contrast Tomosynthesis for a Breast Specimen	
	7. Instrumentation and Methodology	
7-1	Homogeneity Characterization of Lattice Spacing of Silicon Single Crystals by a Self-Referenced Lattice Comparator at BL-3C	
7-2	Production of an Energy-Tunable Positronium Beam	
8. Accerelators		
8-1	Evaluation of Emittance Characteristics of Negative Electron Affinity GaAs-Based Photocathode	