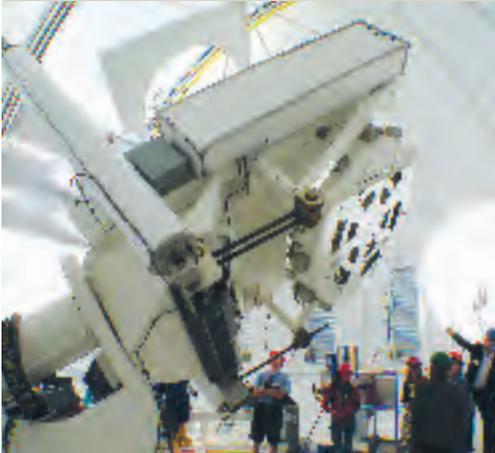


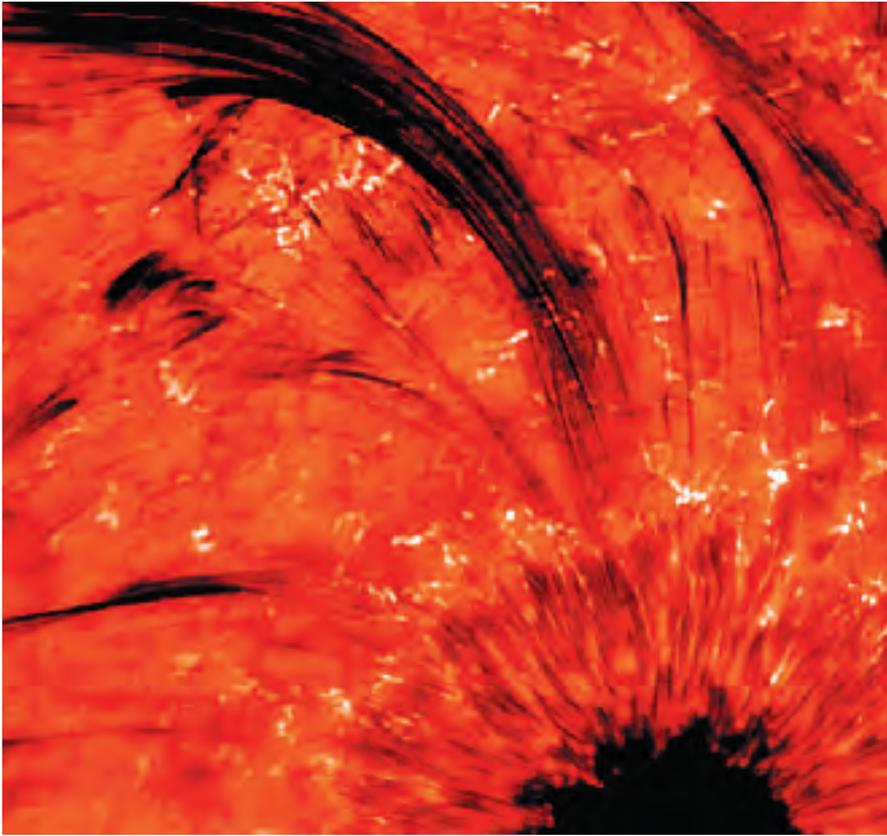
Sun

Storms:

BIG BEAR OBSERVATORY

NJIT's Center for Solar-Terrestrial Research based on campus integrates the work of researchers involved in a comprehensive program focused on discovering new knowledge about the Sun — knowledge basic to accurate prediction of dangerous solar events and sustaining operation of vital near-Earth and terrestrial infrastructure.





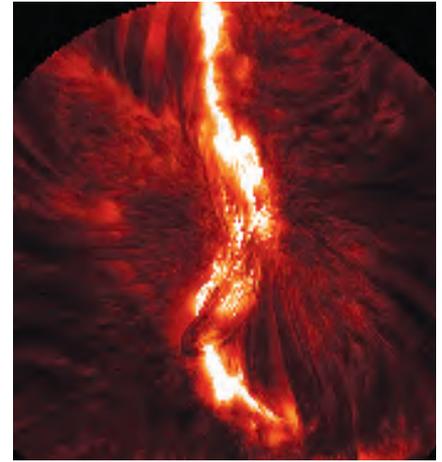
Powerful solar flares (*above*) and even more potent coronal mass regularly send bursts of charged particles toward Earth that can destroy the electronics in satellites essential for communications, weather forecasting and global positioning service. On the ground, this violent space weather can damage power grids, disrupt cell phone service, and force airlines to reroute flights away from the North Pole due to interference with high-frequency communications and ele-

vated radiation danger for passengers and crew members. Under the direction of Professor of Physics **Alexander Kosovichev**, NJIT's **Center for Solar-Terrestrial Research** based on campus integrates the work of researchers involved in a comprehensive program focused on discovering new knowledge about the Sun — knowledge basic to accurate prediction of dangerous solar events and sustaining operation of vital near-Earth and terrestrial infrastructure.



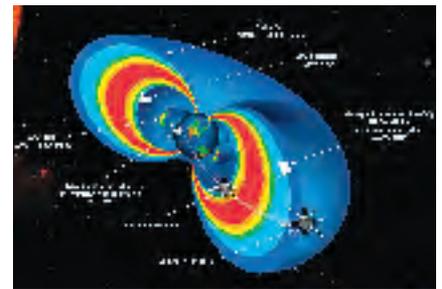
The university's **Big Bear Solar Observatory** in California (*above*) houses the world's most powerful ground-based optical telescope dedicated to solar research.

Headed by Distinguished Professor of Physics **Haimin Wang**, the **Space Weather Research Laboratory** headquartered in Newark is a central source of information about solar conditions kept current by data from **Big Bear** and **Owens Valley**, spacecraft, and seven other observatories around the world. **Owens Valley** 2.1 meter and 27-meter antennas (*below*).



A violent solar event captured by **Big Bear** instrumentation (*above*).

An experiment (*below*) designed under the leadership of **Louis Lanzerotti**, NJIT distinguished research professor of physics, is aboard the two



NASA Van Allen Probes now in orbit gauging the impact of space weather on the near-Earth radiation environment.

The network of **Automatic Geophysical Observatory (AGO)** stations managed by NJIT at the South Pole under the direction of Professor of Physics **Andrew Gerrard** is collecting data about



the terrestrial influence of space weather, including disruptive interaction between solar phenomena and Earth's magnetic field. (*Above*) NJIT Research Engineer **Gil Jeffer** at AGO 3.