



TIMED mission patch (upper left) showing the satellite superimposed on the mesosphere, lower thermosphere, and ionosphere region of the atmosphere. In the upper right, an APL engineer is integrating the SABER instrument onto the spacecraft. An image of data from the Laboratory-developed GUVI instrument shows intense auroras (in white) occurring over the northern polar region during solar storms in April 2002, extending much farther south than usual. During the same storm, TIMED's SEE instrument detected a 10-fold increase in X-ray levels (green line in bottom panel), with only slight variations detected in extreme ultraviolet radiation (red line). The solar storm is shown in the center as viewed by NASA's SOHO (Solar and Heliospheric Observatory) and TRACE (Transition Region and Coronal Explorer) spacecraft. TIMED's observations of our atmosphere's response to this series of strong solar storms provided scientists with important new information on the physical processes connecting the Sun and Earth.