Figure 10.11 Rigid panel GaAs solar array (Picture courtesy of NASA). (The PV array is the two rectangular panels of five modules each)

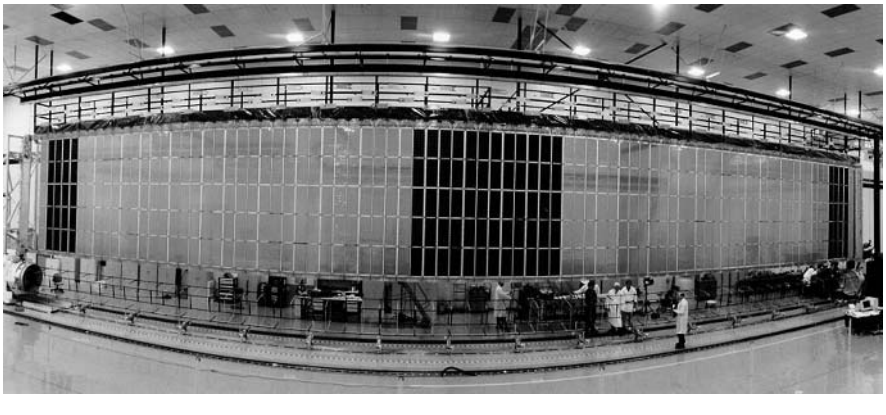

Figure 10.12 ISS array with linear deployment. (Figure courtesy of NASA)

by means of an Astromast™, an Ablemast™, or some other similar device. The specific power of these types of arrays varies from 40 to 100 W/kg, depending on the cell type, power, mission-reliability requirements, spacecraft orientation and maneuverability capabilities, and safety requirements. Initially, they were marketed as a significant improvement in power produced per unit mass. However, even though flexible arrays have an excellent figure-of-merit in this regard, the best rigid honeycomb panels have thus far matched their specific power performance. Very large flexible blanket solar arrays present complex structural and spacecraft design issues. This type of array is used on the MILSTAR series of spacecraft, on the TERRA spacecraft, and on the ISS (see Figure 10.2).