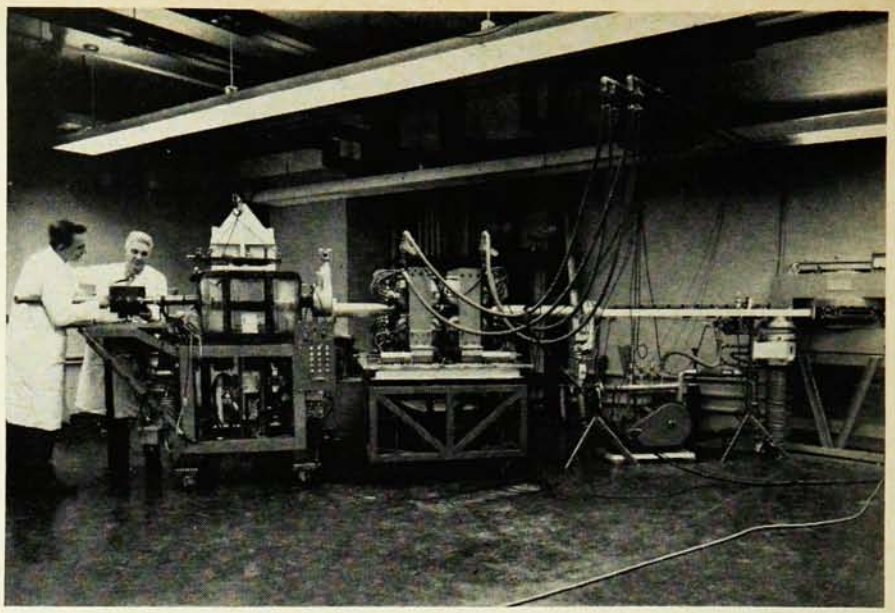
be assigned, even temporarily, to the radio-astronomy service. Other frequency bands which the FCC has allocated exclusively to radio astronomy on a nation-wide basis are:

40.66-40.70 Mc	10680-10700 Mc
73.0 -74.6	15350-15400
1400 -1427	19300-19400
2690 -2700	31300-31500.
4990 -5000	

In addition, other bands have been allocated to radio astronomy on a secondary basis. They include:

2495-2505 kc	14990-15010 kc
4995-5005	19990-20010
9995-10005	24.09-25.01 Mc
	404-406 Mc.



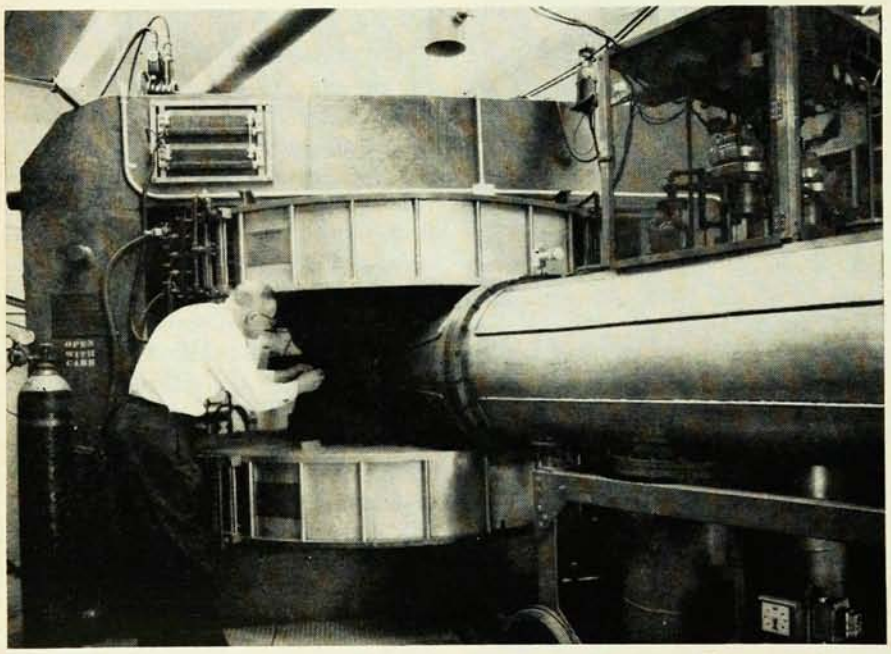
A portion of the experimental area in the new cyclotron building at the Massachusetts Institute of Technology. Scattering chamber is being installed, above, for one of three simultaneous experiments that can be performed with the rebuilt cyclotron.

MIT Cyclotron Improved

A year-long, half-million-dollar program of improvement and reconstruction has renewed and enlarged the capabilities of the cyclotron at the Massachusetts Institute of Technology. When it was designed in 1940, the cyclotron was one of the most powerful and advanced accelerators in the world. The passage of time had rendered it less and less useful, however, and four basic improvements were included in the renewal project: larger target areas, better focusing of the beam, the addition of a modern radiochemistry laboratory, and expanded general research laboratories. To provide the needed space, the entire building, except for the one-story vault around the cyclotron itself, was torn down and a new building, almost five times as large, was erected.

The machine now ranks as a low-energy device. It can produce protons up to 7.5 MeV, deuterons up to 15 MeV, and alpha particles up to 30 MeV and will be useful mainly in studies of nuclear structure and the production of radioisotopes.

Originally designed by a team headed by Robley D. Evans and M. Stanley Livingston, the cyclotron is now part of MIT's Laboratory for Nuclear Science, directed by Peter T. Demos. Funds for the reconstruction included a grant of $333 000 from the US Atomic Energy Commission, with the balance from MIT.



A view of the magnet coils and dee line of MIT's reconstructed cyclotron. Chief operator Earl White is shown adjusting the accelerator's particle deflector.

Monitoring Jupiter

The National Aeronautics and Space Administration's Goddard Space Flight Center has awarded a contract to Yale University to design and develop a world-wide system for monitoring radio emissions from the planet Jupiter. The network will be set up to maintain 24-hour observation of the planet at the frequencies of 16.5 and 22.2 Mc and will consist of four stations, separated from each other by about a quadrant of longitude. One of the stations will be located near the Goddard Center in Greenbelt, Md. The other three will be located at US satellite-tracking stations at Hartesbeesthoek, South Africa; Carnavon, Australia; and South Point, Hawaii.

Since only one of the four stations will have Jupiter in view during a given time period, the others will be free for other studies. A secondary