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**PESEK LECTURE:
BUILDING SETI'S FIRST DEDICATED OBSERVATORY**

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The 1hT will be a large area (10,000 m²) telescope whose novel characteristics will be a wide field of view, continuous frequency coverage from 0.5 - 11 GHz, multibeam capability, and provision for RFI mitigation built in. Its scientific motivation includes deep SETI searches, pulsar detection and investigation, galactic magnetic field mapping through many Zeemann transitions, mapping of the decrement in the cosmic background radiation seen toward galaxy clusters, observation of HI absorption toward quasars at redshifts up to $z = 2$, and deep mapping of the HI distributions in the Milky Way and nearby galaxies. The array will use economies of scale to keep the costs down. It will consist of 500 - 1000 dishes of diameters in the range 3.6m - 5m. The dishes will be TV satellite style with wideband MMIC chip front-end amplifiers. Substantial prototype activity is under way. The feed, dish, and front-end MMIC designs are well along. A seven-element test array was recently completed. It will be used for studying RFI mitigation. By 2002, a 12-element production test array (PTA) which will be made up of all the final components will be operational. Final construction of the full array is expected by 2005.