## Abstract

The Conference on Sector-Focused Cyclotrons centered attention on problems associated with the design and construction of a new type of fixed-frequency cyclotron in which azimuthal variations in the magnetic field provide axial focusing for large ion currents and also permit the radial increase in average magnetic required field for the acceleration of ions to relativistic energies. Considerable attention was given to development of the ion orbit theories, calculation of the complex magnetic field configurations, and to measurements made with model magnets. Several laboratories reported initial operating experience with experimental machines and models. Special features for improving beam quality, providing variable frequency to accelerate different ions to various energies, and for improving beam deflection were discussed. Some twenty laboratories in the six countries represented at the conference are now engaged in the testing, construction, design, or serious study of sector-focused cyclotrons.