Status of MAPA (Modular Accelerator Physics Analysis) and the Tech-X Object-Oriented Accelerator Library*, <u>J.R. CARY</u>**, S. SHASHARINA, D.L. BRUHWILER, TECH-X CORPORATION -

The MAPA code is a fully interactive accelerator modeling and design tool consisting of a GUI and two object-oriented C++ libraries: a general library suitable for treatment of any dynamical system, and an accelerator library including many element types plus an accelerator class. The accelerator library inherits directly from the system library, which uses hash tables to store any relevant parameters or strings. The GUI can access these hash tables in a general way, allowing the user to invoke a window displaying all relevant parameters for a particular element type or for the accelerator class, with the option to change those parameters. The system library can advance an arbitrary number of dynamical variables through an arbitrary mapping. The accelerator class inherits this capability and overloads the relevant functions to advance the phase space variables of a charged particle through a string of elements. Among other things, the GUI makes phase space plots and finds fixed points of the map. We discuss the object hierarchy of the two libraries and use of the code.

**   Also U. Colorado