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## The Coil Control Module of a Feedback System of KTX in China

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The objective of this paper is to introduce the coil control module of a feedback system that is designed for the RFP (reversed field pinch) device named KTX (Keda Torus for eXperiment) which is under construction in University of Science and Technology of China. The module is designed for receiving 16 channels of data stream captured by a sample module and using high-speed DAC to give a feedback to the RFP system, which can change the voltage between the unique double-C structures to make the toroid field better. The coil control module is composed of a RS-485 half-duplex transceiver, a FPGA (Field Programmable Gate Array), a network interface and the high-speed DAC part to send the feedback data. RS-485 and network interface provide two different ways to gather data from upper module, which can give more choices for a lot of different kinds of situation. FPGA is the core of the whole module to control all the process, and the DAC we pick has high speed and sufficient accuracy. With the whole feedback system, the radial magnetic field around vertical gap can be reduced to achieve the goal.

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