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## Vector Modulation of High RF Power using Ferrite Phase Shifters

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In generation and distribution of high power RF for charged particle accelerators, a fan-out configuration to power many cavities using a high powered klystron is considered advantageous in saving construction and installation cost. High power fast RF phase shifters can be used to construct a vector modulator for independent control of RF amplitude and phase delivered to an accelerating cavity. A prototype vector modulator that employs two quasi-TEM mode coaxial ferrite phase shifters has been built and bench tested. The properties of the vector modulation system and characteristics of the phase shifters derived by simulations and measurements will be presented.

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