An Experimental Method of Aberration Correction for High Resolution Mass Spectrometers, J.L. BELMONT, J.M. DE CONTO, A. FONTENILLE, M. LAAMYEM, ISN Grenoble; G. HADINGER, IPN Lyon; R. MEUNIER, CSNSM Orsay - A new method for the experimental correction of aberrations has been studied successfully. It provides a simple and accurate way to shim a magnetic spectrometer dipole. It uses only a small emittance beam steered on different trajectories in order to construct the "aberration figure" of the system. Then, the needed shimming is calculated and set up.