

A Novel Fast Switching Linear/Helical Undulator, J. CHAVANNE, P. ELLEAUME, P. VAN VAERENBERGH, ESRF - A novel fast switching variable polarization helical undulator is being manufactured at the ESRF. The device is intended to provide a X-ray source for ultra low level dichroism measurement. The vertical field is provided by a set of coils wound on a laminated yoke. The horizontal field is made with a set of Sm₂CO₁₇ permanent magnets installed between the poles. The device is installed on a remotely-controlled carriage for changing the gap. The flipping time between right and left polarized radiation is measured to be 5 milliseconds. The raw uncorrected field integrals are within 200 Gcm. The main issue met in the magnetic design such as the peak field, saturation and integrated multipole will be discussed. The results of the DC and AC field measurements and field integral correction will be presented.