Analysis of 3D Helical Wiggler Radiation from Electron Trajectory using Lienard-Wiechert Fields, P. GOUARD, J.-M. LEKSTON, CEA - The new code SELF3D calculates spontaneous emission from electron trajectory in a magnetic field of helical wiggler using Lienard-Wiechert (LW) fields. These fields are exact solutions of a wave equation for a point charge in free space. The spontaneous emission frequency spectral is compared with the experimental measurements at CEA/CESTA. In the future, SELF3D is going to use a self-consistent treatement of electron beam dynamics and radiation field evolution in magnetic wiggler. This approach is particulary well suited to the investigation of self amplified spontaneous emission (SASE) without introducing a seed wave at start-up.