Abstract
Besides being the most accurate stellar distance indicators, young Cepheids are arguably the best stellar proxy for the detailed chemical composition of the ISM in the Milky Way: they are young (20-250 Myr); age-datable by their periods; luminous and hence visible to large distances; and their surface temperatures (~5,000K) allow precise abundance determinations of many different chemical elements. However, such abundance maps are currently limited by the small number of Cepheids known in the most reddened regions of the Galactic disk. These limitations are currently being overcoming by on-going near-infrared (NIR) variability surveys, such as VVV, IRSF and PS1, which are capable of cope with the thorny problems of the high extinction and the of differential reddening. Similarly, only NIR spectrograph can collect spectra with reasonable Signal-to-Noise ratio to allow the chemical abundance analysis for such obscured stars. But near-infrared spectroscopy of Cepheid stars is still in its infancy and there is no background study available in the literature. I will present the first chemical abundance ever estimated from NIR low resolution spectra of five new Cepheids discovered in the inner edge of the Galactic disk, together with the pioneering work I am carrying out by using NIR high resolution spectrographs, such as CARMENES (R~90,0000), APOGEE (R~22000) and LUCI (R~6000) to allow the determination of stellar parameters, kinematics and chemical abundances of Cepheids from single-epoch observations.