

## ABSTRACT

CHIRON is an echelle, high resolution spectrograph mounted on a 1.5[m] telescope in the Cerro Tololo Inter-American Observatory. Currently, Chiron along with its processing software provides astronomical data in a daily basis. The software used for processing the incoming raw data has introduced various shortcomings over the years (Walter 2018). The accuracy and versatility of the software is preponderant for the reliability of the handed astronomical data. This research aims to provide an updated and optimized software pipeline by creating alternatives for cosmic ray's removal, enhance the order tracing including overlapping orders, increase the spectrum coverage of the current software, and produce a more robust wavelength calibration. The results suggest an improvement in the signal to noise ratio of the extracted spectra.