We present a detailed study of the Double Periodic Variable V4142 Sgr based on photometric and spectroscopic analysis. We re-analyzed and improved an orbital period of $30.633 \pm 0.002$ days and a long cycle of $1201 \pm 14$ days. Our spectral analysis reveals Hα absorption with a persistent $V \leq R$ asymmetry emission which is considered evidence of a possible wind in the hotspot region. In addition, we find an cold and evolved donor star of $M_d = 1.11 \pm 0.2 \ M_\odot$, $T_d = 4500 \pm 125$ K and a $R_d = 19.4 \pm 0.2 \ R_\odot$ and a rejuvenated B-dwarf companion of $M_g = 3.86 \pm 0.3 \ M_\odot$, $T_g = 14380 \pm 700$ K and $R_g = 6.35 \pm 0.2 \ R_\odot$. The gainer is surrounded by concave and geometrically thick disk creating its own atmosphere around of main component of a radial extension $R_d = 22.8 \pm 0.3 \ R_\odot$, contributing ~ xx percent of the total luminosity of the system at the $V$-band. The disk is characterized by a hot-spot roughly placed where the stream hits the disk and an additional bright-spot separated $102.5 \pm 0.04$ degree apart along the disk edge rim in the direction of the orbital motion. The system is seen under inclination $81.5 \pm 0.3$ and to a distance $d = xx \pm xx$ pc. Doppler maps of the emission lines reveals sites of enhanced line emission in the 2th and 3th velocity quadrants, the first one corresponds to the hot-spot ad the second to the bright spot detected by the light curve analysis. In addition, the Balmer line emission shown a disk with horseshoe-shaped.

**Primary author:** Mr JAIME ANDRÉS, Rosales Guzmán (Department of Physics, North-West University, Private Bag X2046, Mmabatho 2735, South Africa; Departamento de Astronomía, Universidad de Concepción, Casilla 160-C, Concepción, Chile)

**Co-authors:** SCHLEICHER, D. R. G. (Departamento de Astronomía, Universidad de Concepción, Casilla 160-C, Concepción, Chile); DJURASEVIC, G. (Astronomical Observatory, Volgina 7, 11060 Belgrade 38, Serbia, Isaac Newton Institute of Chile, Yugoslavia Branch, 11060 Belgrade, Serbia); ARAYA, I. (Nucleo de Matematica, Fisica y Estadistica, Facultad de Estudios Interdisciplinarios, Universidad Mayor, Chile); PETROVIC, J. (Isaac Newton Institute of Chile, Yugoslavia Branch, 11060 Belgrade, Serbia); CURE, M. (Instituto de Fisica y Astronomy, Facultad de Ciencias, Universidad de Valparaiso, Chile); MENNICKENT, R. E. (Departamento de Astronomía, Universidad de Concepción, Casilla 160-C, Concepción, Chile); MEDUPE, R. (Department of Physics, North-West University, Private Bag X2046, Mmabatho 2735, South Africa)

**Presenter:** Mr JAIME ANDRÉS, Rosales Guzmán (Department of Physics, North-West University, Private Bag X2046, Mmabatho 2735, South Africa; Departamento de Astronomía, Universidad de Concepción, Casilla 160-C, Concepción, Chile)

**Session Classification:** Stellar Astrophysics and Interstellar Medium