ROTATIONAL ANALYSIS OF A NEW [15.05] Ω=0^+ – $X\ ^3\Sigma(0^+)$ ELECTRONIC TRANSITION OF TUNGSTEN SULFIDE (WS) IN THE 14,900 - 16,100 cm^{-1} REGION OBSERVED USING ILS-FTS

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Three bands of tungsten sulfide, WS, in the 14,900 - 16,100 cm^{-1} region have have been recorded in high resolution using Intracavity Laser Spectroscopy integrated with Fourier Transform detection (ILS-FTS). WS was formed in the plasma discharge resulting from a 0.05 A – 0.15 A DC current applied to a tungsten-lined copper hollow cathode within the resonator cavity of a dye laser using gas flows of Ar, CS_2, and H_2 at a pressure of approximately 1 torr. Based on isotopologue shifts, the observed WS bands are assigned as the (0,0), (1,0), and (2,0) bands of a new [15.05] Ω=0^+ – $X\ ^3\Sigma(0^+)$ electronic transition, with bandheads near 15,050, 15,575, and 16,094 cm^{-1}, respectively. The observed line positions were rotationally analyzed using PGOPHER, and spectroscopic constants are compared to a previous computational work [L.F. Tsang *et al.*, J. Mol. Spec. 2019 (359), 31-36]. The results of the analysis will be presented.