

## GROUND STATE OF FeC

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Laser induced fluorescence spectrum of FeC between 720-830 nm has been recorded and analysed. 12 electronic transitions have been studied. Transitions from the  $\Omega = 3, 2$  and 1 substates of the  $X^3\Delta_1$  state have been observed. The spin-orbit constant of the ground state is determined to be  $-211.5 \text{ cm}^{-1}$ , however, the spin-orbit separation between  $X^3\Delta_2$  and  $X^3\Delta_3$  substates is measured to be  $-329.809 \text{ cm}^{-1}$ . In addition, hot band transitions from  $v = 1$  level of the  $X^3\Delta_1$  state have also been observed. The vibrational separation,  $\Delta G_{1/2}$ , of the  $X^3\Delta_3$  state was measured to be  $852.12 \text{ cm}^{-1}$ .