

## FOURIER TRANSFORM EMISSION SPECTROSCOPY OF NEW VISIBLE SYSTEMS OF NbN

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The emission spectrum of NbN has been reinvestigated in the 15000–35000  $\text{cm}^{-1}$  region using a Fourier transform spectrometer and some new transitions have been observed in the visible region. The bands observed in the 18000–19800  $\text{cm}^{-1}$  region have been assigned as a new  ${}^3\Pi - X {}^3\Delta$  transition. Three bands with R heads near 19463.8, 19659.0 and 19757.0  $\text{cm}^{-1}$  have been assigned as the 0–0 bands of the  ${}^3\Pi_2 - X {}^3\Delta_3$ ,  ${}^3\Pi_1 - X {}^3\Delta_2$  and  ${}^3\Pi_{0\pm} - X {}^3\Delta_1$  sub-bands of the new transition. To higher wavenumbers, a 0–0 band with origin near 25409.9  $\text{cm}^{-1}$  has been assigned as a  $\Delta\Omega = 0$  transition with  $X {}^3\Delta_2$  as the lower state. A rotational analysis of the 0–0 and 0–1 bands of these sub-bands has been carried out and spectroscopic constants have been extracted. Two additional bands with origins near 25518.7 and 25534.8  $\text{cm}^{-1}$  are  $\Delta\Omega = 0$  bands having  $X {}^3\Delta_1$  as the common lower state. Most of excited levels are affected by perturbations.