

Abstract Submitted  
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**Laser Spectroscopy of Rydberg Level Hyperfine Structure Investigations in Niobium I**<sup>1</sup> S. BURÇIN BAYRAM, Miami University, Oxford, OH, GÜNAY BAŞAR, Technical University of Istanbul, GÖNÜL BAŞAR, Istanbul University, Istanbul, Turkey, SOPHIE KRÖGER, Technische Universität Berlin, Germany — We have applied high-resolution laser spectroscopic techniques to measure the hyperfine structure of the high-lying levels of atomic niobium: 20 well-resolved spectra were measured using Doppler-limited optogalvanic spectroscopy technique and 10 spectra using Doppler-reduced saturation absorption spectroscopy technique in the wavelength range between 645 nm and 675 nm. We have precisely determined the magnetic dipole hyperfine structure constants  $A$  for 42 levels and electric quadrupole hyperfine structure constants  $B$  of 15 levels. 17  $A$  constants and 5  $B$  constants were measured for the first time. With the present work the experimental hyperfine data for the levels of odd parity of atomic Nb is extended.

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