

Level	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
3d _{5/2} 4p _{3/2}	855.9	1005.5	1175.7	1366.2	1557.8	1758.9	1971.7	2.210.0+	2440.9	2682.8	2937.5	3205.2	3480.4	3.767.1	4064.5	4372.8
3d _{3/2} 4p _{1/2}	869.6	1020.4	1191.7	1383.1	1575.7	1777.7	1991.5	2189.2+	2419.1	2659.7	2913.1	3179.1	3452.4	3737	4031.8	4337.2
3d _{3/2} 4p _{3/2}	875.3	1027.6	1200.7	1394.4	1589.5	1794.4	2011.5	2233.8	2468.9	2715.4	2975.2	3248.6	3530	3823.4	4128.1	4444.3
3d _{5/2} 4f _{5/2}	1310.8	1516.9	1743.8	1990.5	2238.1	2495.1	2771.8	3033.7	3321.4	3617.3	3924.2	4247.3	4576.1	4916.4	5267.1	5627.2
3d _{5/2} 4f _{7/2}	1318.7	1526.3	1755.4	2004.5	2254.7	2514.3	2793.5	3060	3350	3649.4	3960	4286.7	4619.5	4964	5319.1	5683.8
3d _{3/2} 4f _{5/2}	1332.2	1.545.2	1779.7	2034.9	2292	2559.1	2843.9	3121.3	3419.9	3728.2	4048.4	4383.3	4723.1	5094.1+	5454.3	5828.8
3p _{3/2} 4s _{1/2}	1650.9	1868.7	2077.8	2309	2541.3	2782.4	3035	3292.3	3561.8	3842.3	4135.8	4442.1	4757.8	5065.3+	5404.8	5751.8
3p _{1/2} 4s _{1/2}	1712	1939.7	2159.6	2403.5	2649.6	2905.8	3175.3	3451	3740.8	4043.4	4360.9	4692.7	5034.2	5389.3	5757.3	6139.8
3p _{3/2} 4d _{3/2}	2044.8	2305.1	2256.9	2831.1	3106.7	3391.7	3688.7	3990.8	4305.9	4632.5	4972.3	5325.9	5687.3	6060.8	6445.5	6842.3
3p _{3/2} 4d _{5/2}	2055.4	2317.2	2570.4	2846	3122.9	3409.4	3707.8	4011.6	4328.3	4656.6	4998.2	5353.7	5717.2	6092.9	6480.1	6879.4
3p _{1/2} 4d _{3/2}	2116.3	2387.8	2651.6	2939.6	3230.2	3531.3	3846.2	4167.8	4504.2	4854	5219.2	5600.1	5991.3	6397	6816.4	7250.9

Table 1 Energy levels (in 1000 cm⁻¹) of the odd states with $J=1$ of the Ni- like ions with $Z = 36-51$

Level	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
3d _{3/2} 4s _{1/2}	706.2	840.9	995.9	1171	1347.3	1532.7	1729.8	1931.4	2145.1	2369.7	2607	2856.4	3113.3	3381.3	3659.5	3948.6
3d _{5/2} 4d _{3/2}	1088.4	1263	1458.1	1673.1	1889.4	2115.1	2352.6	2594.8	2849.6	3115.3	3393.8	3685.5	3984.6	4295.3	4616.5	4948.6
3d _{5/2} 4d _{5/2}	1098.9	1275.3	1472.1	1688.8	1906.8	2134.3	2373.4	2617.4	2873.9	3141.5	3421.8	3715.5	4016.7	4329.5	4653.1	4987.6
3d _{3/2} 4d _{5/2}	1106.4	1284.2	1482.7	1701.4	1921.6	2151.6	2400.8+	2648.7	2909.5	3181.8	3467.4	3766.8	4074.3	4394	4725.1	5067.6
3d _{3/2} 4d _{3/2}	1110.1	1288.5	1487.5	1706.7	1927.6	2158.2	2393.6+	2640.6	2900.6	3172	3456.5	3754.8	4060.9	4379.1	4708.5	5049.2
3p _{3/2} 4p _{1/2}	1793.6	2.025.4	2248.6	2494.2	2740.6	2996.2	3263.4	3535.2	3819.4	4114.3	4422.2	4742.5	5070.2	5409	5758.3	6118.8
3p _{3/2} 4p _{3/2}	1811	2045.6	2271.6	2520.6	2770.7	3030.5	3302.4	3579.5	3869.5	4171	4486	4814.4	5150.9	5499.4	5859.3	6231.3
3p _{1/2} 4p _{1/2}	1862.1	2104.2	2338.5	2597	2857.6	3128.4	3412.6	3703.1	4007.8	4325.1	4657.5	5.004.5	5361.2	5731.5	6114.8	6512.4
3p _{1/2} 4p _{3/2}	1.874.4	2119.3	2356.7	2618.9	2883.5	3159	3448.2	3744.5	4055.5	4379.9	4719.8	5075.4	5441.4	5821.8	6216.2	6625.7
3p _{3/2} 4f _{5/2}	2258.9	2.549.8	2832	3136.7	3442.4	3757.5	4092.6	4413	4760.5	5116.2	5483.5	5867.5	6257.7	6660	7073.3	7497.2

Table 2 Energy levels (in 1000 cm^{-1}) of the even states with $J=1$ of the Ni-like ions with $Z = 36-51$