**Table 3.1.** Broadening and shift of atomic alkali resonance lines by noble gases and $N_2$. (All numbers are given in units of $10^{-20}\,cm^{-1}\,cm^{-3} \approx 10\,MHz/torr$ at $T = 300\,K$)

| | Transition | λ (nm) | Self-broadening | Helium | | Neon | | Argon | | Krypton | | Xenon | | Nitrogen | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | width | Shift | width | Shift | width | Shift | width | Shift | width | Shift | width | Shift |
| Li | $2S$–$2P$ | 670.8 | | 1.0 | −0.08 | 0.6 | −0.2 | 1.2 | −0.7 | 1.46 | −0.8 | 1.66 | −1.0 | | |
| Na | $3S_{1/2}$–$3P_{1/2}$ | 598.6 | | 0.9 | 0.00 | 0.6 | −0.3 | 1.4 | −0.75 | 1.4 | −0.6 | 1.5 | −0.6 | | |
| | $-P_{3/2}$ | 598.0 | | 1.1 | 0.06 | 0.6 | −0.4 | 1.2 | −0.7 | 1.3 | −0.7 | 1.5 | −0.6 | | |
| K | $4S_{1/2}$–$4P_{1/2}$ | 769.9 | $3 \times 10^3$ | 0.8 | 0.24 | 0.4 | −0.2 | 1.3 | −1.2 | 1.2 | −0.9 | 1.5 | −1.0 | 1.3 | −1.0 |
| | $-4P_{3/2}$ | 766.5 | | 1.1 | 0.13 | 0.6 | −0.3 | 1.1 | −0.8 | 1.2 | −0.6 | 1.5 | −1.0 | 1.3 | −0.7 |
| | $-5P_{1/2}$ | 404.7 | $2 \times 10^3$ | 1.9 | 0.7 | 0.8 | 0 | 3.6 | −2.0 | 3.3 | −2.0 | 3.3 | | | |
| Rb | $5S_{1/2}$–$5P_{1/2}$ | 794.7 | $1 \times 10^4$ | 1.0 | | 0.5 | −0.04 | 1.0 | −0.8 | 1.0 | −0.8 | 1.2 | −0.8 | | |
| | $-6P_{1/2}$ | 421.6 | $8 \times 10^3$ | 5.0 | | | | 3.8 | | | | | | | |
| | $-10P_{1/2}$ | 315.5 | $4 \times 10^3$ | 5.0 | 7.0 | | | 12.0 | −9.5 | | | 30 | −6 | | |
| Cs | $6S_{1/2}$–$6P_{1/2}$ | 894.3 | | 1.0 | 0.67 | 0.5 | −0.29 | 1.0 | −0.9 | 1.0 | −0.27 | 1.1 | −0.8 | 1.5 | −0.7 |
| | $-7P_{1/2}$ | 459.0 | | 4.2 | 1.5 | 4.1 | | 4.3 | | | −1.5 | 3.1 | −1.7 | | |