

**THE COLLISIONAL ATOMIC PROCESSES:
RYDBERG ALKALI ATOMS**

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The rate coefficients for the chemi-ionization (CI) processes in $\text{Na}^*(n)+\text{Na}$, $\text{Li}^*(n)+\text{Na}$, $\text{Li}^*(n)+\text{Li}$ and $\text{H}^*(n)+\text{Li}$ collisions are presented for a wide region of temperatures and principal quantum numbers. The presented values of the rate coefficients are very useful for the improvement of modelling and analysis of different layers of weakly ionized plasmas in atmospheres of various stars (photosphere of Sun, lithium stars, etc) where these and other CI processes could be important and could change the optical characteristics (Mihajlov et al 2011; Srećković et al. 2014). Also, the results are of interest in spectroscopy of low temperature laboratory plasma created in gas discharges, for example in microwave-induced discharges at atmospheric pressure, where such plasma conditions may be favorable.

References

- Mihajlov, A. A., Ignjatović, L. M., Srećković, V. A., Dimitrijević, M. S.: 2011, *ApJS*, **2**, 193.
Srećković, V. A., Mihajlov, A. A., Ignjatović, L. M. and Dimitrijević, M. S.: 2014, *Adv Space Res*, **54**, 1264.