

## **The collisional processes in geo-cosmical plasmas: A&M data needed for spectroscopy investigations**

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In this paper, we investigate the chemi-ionization processes in atom-Rydberg atom collisions. The rate coefficients for chemi-ionization processes collisions are presented for a wide region of temperatures and principal quantum numbers. The data for 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 where these and other chemi-ionization processes could be important and could change the optical characteristics (see e.g. [1,2] and reference therein). Also, the results are of interest in spectroscopy of low temperature laboratory plasma.

### **References**

- [1] Mihajlov, A. A., Ignjatović, L. M., Srećković, V. A., & Dimitrijević, M. S. (2011). Chemi-ionization in solar photosphere: influence on the hydrogen atom excited states population. *The Astrophysical Journal Supplement Series*, 193(1), 2.
- [2] Srećković, V. A., Mihajlov, A. A., Ignjatović, L. M., & Dimitrijević, M. S. (2014). Ion-atom radiative processes in the solar atmosphere: quiet Sun and sunspots. *Advances in Space Research*, 54(7), 1264-1271.