

## BIBLIOGRAPHY

### **PTYS/ATMO 544 – SPRING 2019** **Physics of the High Atmospheres**

#### **Reading assignments**

#### **Weeks 1-3**

- Garcia Munoz, A., Koskinen, T. T., Lavvas, P., 2017. Upper atmospheres and ionospheres of planets and satellites. In *Handbook of Exoplanets*, H. J. Deeg, J. A. Belmonte (eds.), Springer International Publishing, DOI 10.1007/978-3-319-30648-3\_52-1
- Muller-Wodarg, I. C. F., et al., 2008. Neutral atmospheres, *Space Sci. Rev.*, 139, 191-234

#### **Weeks 4-5**

- Roble, R. G., Ridley, E. C., Dickinson, R. E., 1987. On the global mean structure of the thermosphere. *J. Geophys. Res.*, 92, 8745-8758.
- Bougher, S. W., Roble, R. G., 1991. Comparative terrestrial planet thermospheres. 1. Solar cycle variation of global mean temperatures. *JGR*, 96, 11045-11055
- Roble, R. G., 1995. Energetics of the mesosphere and thermosphere. The upper mesosphere and lower thermosphere, A review of experiment and theory, *Geophysical Monograph* 87.
- Bougher, S. W., et al., 1999. Comparative terrestrial planet thermospheres. 2. Solar cycle variations of global structure and winds at equinox. *JGR*, 104, 16591-16611.

#### **Week 6**

- Schunk and Nagy (2000), Chapter 11
- Salby (1996), Chapter 17
- Stone, S. W., et al., 2018. Thermal structure of the Martian upper atmosphere from MAVEN/NGIMS. *JGR: Planets*, 123, 2842-2867.

#### **Week 7**

- Schunk and Nagy (2000), Chapter 12

#### **Week 8**

- Yelle, R. V., et al., 2001. Structure of the Jovian stratosphere at the Galileo Probe Entry Site. *Icarus*, 152, 331-346.
- Koskinen, T. T., et al., 2015. Saturn's variable thermosphere from Cassini/UVIS occultations. *Icarus*, 260, 174-189.

#### **Weeks 11 and 12**

- Gombosi (1994), Chapters 3, 5 and 6

#### **Weeks 13 and 14**

- Hunten, D. M., 1973. The escape of light gases from planetary atmospheres. *J. Atmos. Sci.*, 30, 1481-1494.
- Hunten, D. M., Pepin, R. O., Walker, J. C. G., 1987. Mass fractionation in hydrodynamic escape. *Icarus*, 69, 532-549.
- Lavvas, P., Coustenis, A., Vardavas, I. M., 2008. Coupling photochemistry with haze formation in Titan's atmosphere, Part I: Model description. *Plan. Space Sci.*, 56, 27-66.

- Koskinen, T. T., et al., 2013. The escape of heavy atoms from the ionosphere of HD209458b. I. A photochemical-dynamical model of the thermosphere. *Icarus*, 226, 1678-1694.

### **Other useful or classic references**

#### **Week 1**

- Bates, D. R., 1959. Some problems concerning the terrestrial atmosphere above about the 100 km level. *Proc. R. Soc. Lon. A*, 253, 451-462
- Hedin, A. E., Niemann, H. B., Kasprzak, W. T., Seiff, A., 1983. Global empirical model of the Venus thermosphere. *JGR*, 88, 73-83
- Gerard, J.-C., et al., 2017. Aeronomy of the Venus upper atmosphere. *Space Sci. Rev.*, 212, 1617-1683

#### **Week 2**

- Yung, Y. L., Demore, W. B., 1982. Photochemistry of the stratosphere of Venus: Implications for atmospheric evolution. *Icarus*, 51, 199-247
- Fox, J. L., Sung, K. Y., 2001. Solar activity variations of the Venus thermosphere/ionosphere. *JGR*, 106, 21305-21335.
- Ribas, I., Guinan, E. F., Gudel, M., Audard, M., 2005. Evolution of the solar activity over time and effects on planetary atmospheres. I. High-energy irradiances (1-1700 Å). *ApJ*, 622, 680-694
- Heays, A. N., Bosman, A. D., van Dishoeck, E. F., 2017. Photodissociation and photoionization of atoms and molecules of astrophysical interest. *A&A*, 602, A105
- Marcq, E., Mills, F. P., Parkinson, C. D., Vandaele, A. C., 2018. Composition and chemistry of the neutral atmosphere of Venus. *Space Sci. Rev.*, 214, 10

#### **Week 6**

- Fox, J. L., 1988. Heating efficiencies in the thermosphere of Venus reconsidered. *Planet. Space Sci.*, 36, 37-46.
- Fox, J. L., Zhou, P., Bougher, S. W., 1996. The Martian thermosphere/ionosphere at high and low solar activities. *Adv. Space Res.*, 17, 11203-11218.
- Bougher, S. W., et al., 2000. Comparative terrestrial planet thermospheres. 3. Solar cycle variation of global structure and winds at solstices. *J. Geophys. Res.*, 105, 17669-17692.
- Boxe, C. S., et al., 2014. New insights into Martian atmospheric chemistry. *Icarus*, 242, 97-104.
- Yelle, R. V., et al., 2014. Perturbation of the Mars atmosphere by the near-collision with Comet C/2013 A1 (Siding Spring). *Icarus*, 237, 202-210.

#### **Week 8**

- Moses, J. I., et al., 2005. Photochemistry and diffusion in Jupiter's stratosphere: Constraints from ISO observations and comparisons with other giant planets. *J. Geophys. Res.*, 110, E08001.
- Kim, Y. H., et al., 2014. Hydrocarbon ions in the lower ionosphere of Saturn. *J. Geophys. Res.*, 119, 384-395.

- Koskinen, T. T., Guerlet, S., 2018. Atmospheric structure and helium abundance on Saturn from Cassini/UVIS and CIRS observations. *Icarus*, 307, 161-171.

### **Week 13**

- Erkaev, N. V., et al., 2007. Roche lobe effects on the atmospheric loss from “Hot Jupiters”. *Astron. Astrophys.*, 472, 329-334.
- Leake, J. E., et al., 2014. Ionized plasma and neutral gas coupling in the Sun’s chromosphere and Earth’s ionosphere/thermosphere. *Space Sci. Rev.*, 184, 107-172.