

Pluto's and Triton's hazes

Panayotis Lavvas

GSMA/Université de Reims Champagne Ardenne, CNRS (panayotis.lavvas@univ-reims.fr)

Abstract

Observations from *New Horizons* instruments revealed the presence of photochemical hazes in Pluto's atmosphere [1], while *Voyager 2* observations have demonstrated that similar hazes are also present in the similar atmosphere of Triton [2,3]. Detailed modelling of the atmospheric photo-chemistry of these atmospheres allow to evaluate the mechanism behind the formation of these hazes, while simulations of the involved microphysics permit a calculation of the particle properties that can be validated against the available observations. The results of these studies demonstrate the similarities and the differences for the hazes of these atmospheres, while comparison to the photochemical hazes of Titan's atmosphere [4] provide a global picture of aerosol formation at different conditions.

References

- [1] Gladstone et al. 2016. The atmosphere of Pluto as observed by New Horizons, *Science*, 351, aad8866
- [2] Pollack, JB et al. 1990. Scatterers in Triton's atmosphere: Implications for the seasonal volatile cycle. *Science*, 250, 440-443
- [3] Rages, K and Pollack, JB, 1992. Voyager imaging of Triton's clouds and hazes. *Icarus*, 99, 289-301.
- [4] Lavvas P., et al. (2013). Aerosol growth in Titan's ionosphere. *PNAS*, 110(8), 2729-2734.