Ion pick up process around the unmagnetized planets and non-solar wind ions observed around Moon.

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A review on a pick-up process of planetary ions in the interaction between the solar wind and the upper atmosphere of the unmagnetized planets such as Venus and Mars will be given. Ions originated from the planetary atmosphere are "picked-up" by the interplanetary electric field or due to the wave-particle interaction in the magnetosheath. No direct observations were conducted at Venus, but it was observationally proved that a large number of ions are removed by this process at Mars. Further, we will report on the non-solar wind ions observed around Moon by NOZOMI. These ions had a partial ring structure in the phase space, whick is a character of the picked-up ions. We will discuss on the origin of the non-solar wind ion in the vincity of Moon.