

# Study on the ion escaping in Martian atmosphere

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Based on the view of that the Martian moment is gradually reducing from ancient to present, a model is developed to study distribution of ions along magnetic field line and the ions escaping in atmosphere of the Mars with different assumed intrinsic moment. Intensity of the magnetic field is calculated by considering the Martian magnetic field consisting of a dipolar intrinsic with different moments and a tail-like induced field. The results show that the ions density and flux along the field line in Martian magnetosphere decreases when Mars-central distance increases, with increasing distance from equatorial plane in the Martian magnetotail the ions density and flux is decreasing first and then increasing, the larger the Martian magnetic moment is, the more quickly the ions density and flux decrease with increasing Mars central distance, the ion density and flux in Martian magnetotail increases with decreasing intrinsic moment, so is the ion escaping ratio. The results are significant for studying the water lost from the Mars.