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## Annual variations of Mars atmosphere, as seen by HEND data since 2002

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HEND (High Energy Neutron Detector) onboard NASA's Mars Odyssey spacecraft performs measurements of neutron emission of Martian surface 2002. HEND uses  $^3\text{He}$  counters for detection of epithermal neutrons generated by Galactic Cosmic Rays interaction with surface and atmosphere of Mars.

Weak Martian atmosphere emits, absorbs and scatters neutrons slightly, and outgoing neutron flux on the orbit is changing depending on atmospheric density along the Martian seasons. We have analyzed the HEND data for seasonal variations of outgoing neutron flux above several areas of Mars for nine Martian annual cycles. Measured seasonal variations, presented as Ls profiles for individual years, are compared with numerically predicted profiles according to the model of Martian atmosphere.