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The origin of volatiles on Titan and Enceladus

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The apparent absence of Kr and Xe from Titan's atmosphere can be convincingly attributed to their intrinsically low abundances, provided Titan sampled a reservoir with similar abundances to one of those on the Sun, Earth, Mars, Venus or meteorites. The remarkably high value of $^{14}N/^{36}Ar$ provides the basic proof that Titan's nitrogen originated as NH_3, not N_2. This conclusion is supported by studies of nitrogen isotopes in Jupiter's atmosphere, comets and meteorites.
The value of D/H in the water ice sampled from Enceladus so far is isotopically the same as values measured in comet nuclei originating from 3 different distances. This is consistent with the model of Owen and Robert (2010) requiring all ice in the outer solar system to have the same isotopic ratio, with the possible exception of Titan and the four large satellites of Jupiter.