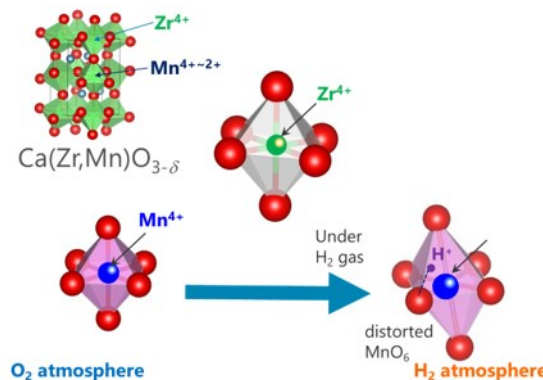


## ペロブスカイト型酸化物の新規プロトン溶解機構を解明

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(立命館大) 渡辺巖, (高輝度光科学研究センター) 新田清文・伊奈稔哲, (宮崎大) 奥山勇治Evaluation of the Electronic and Local Structure of Mn in Proton-Conducting Oxide,  $\text{Ca}(\text{Zr},\text{Mn})\text{O}_{3-\delta}$ , To Elucidate a Direct Hydrogen Dissolution Reaction

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新たなプロトン溶解機構を有する $\text{Ca}(\text{Zr}_{1-x},\text{Mn}_x)\text{O}_{3-\delta}$ 材料は, Mnの還元反応に伴う局所構造変化を伴って,  $\text{H}_2$ が結晶格子に取り込まれることでプロトンが固溶する事を明らかにした. 水素エネルギー社会の実現に向け, 新規発電デバイスへの応用が期待できる.

The protonation mechanism in Mn-doped  $\text{CaZrO}_3$ , which involves a direct hydrogen dissolution from the surrounding  $\text{H}_2$  gas was investigated. We demonstrated a new group of proton conductors that can overcome issues with conventional proton conductors by utilizing the direct hydrogen dissolution reaction.