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LETTERS
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Spectral evidence for hydrated salts in recurring slope lineae on Mars

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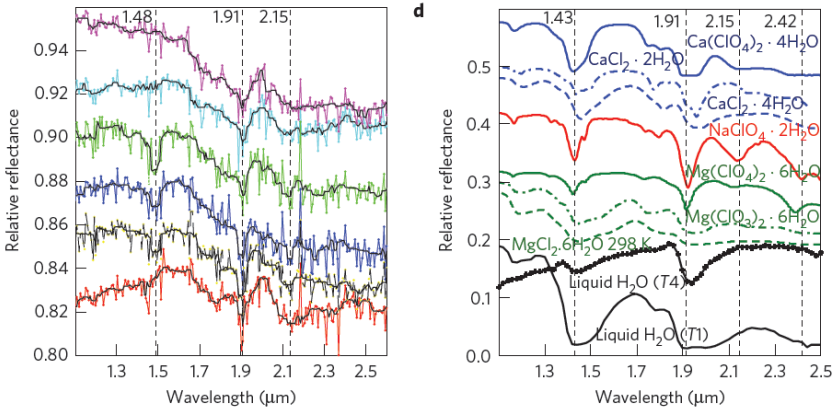
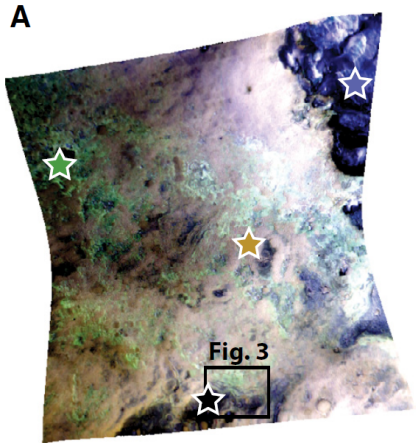


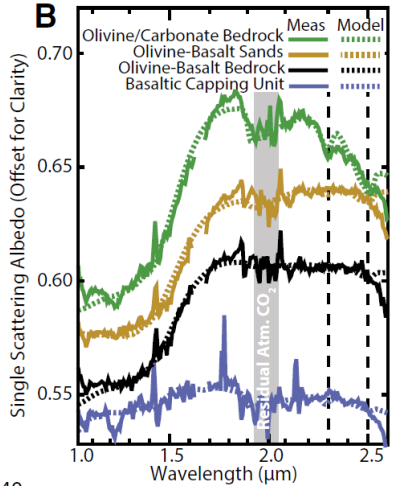
Nugget 1: Results from Ojha et al. strongly support the hypothesis that seasonal warm slopes are forming liquid water on contemporary Mars and spectral identification of perchlorate suggests that the water is briny rather than pure in recurring slope lineae (RSL).

GEOLOGY

Carbon sequestration on Mars

Christopher S. Edwards[1]* and Bethany L. Ehlmann[1,2]





Nugget 2: Olivine-rich basalt surrounding the Isidis impact basin has been partly altered to carbonate by reacting with atmospheric CO_2. This is the largest carbonate-bearing rock unit known on Mars but it represents less than 2x the amount of CO_2 in the present atmosphere, suggesting that water-formed features on early Mars either formed in a thin atmosphere or that a thicker atmosphere was lost to space.

nature COMMUNICATIONS

ARTICLE

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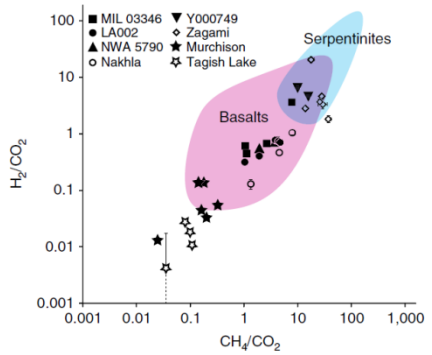
Evidence for methane in Martian meteorites

Nigel J.F. Blamey[1,2], John Parnell[2], Sean McMahon[2], Darren F. Mark[3], Tim Tomkinson[3,4], Martin Lee[4], Jared Shivak[5], Matthew R.M. Izawa[5], Neil R. Banerjee[5] & Roberta L. Flemming[5]



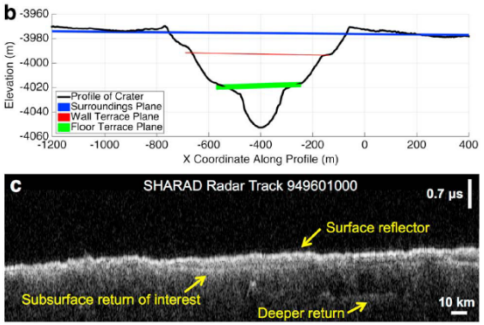
Nugget 3: Availability of methane and hydrogen is critical for microbial habitability of the Martian crust and evidence presented by Blamey et al. indicates that methane-bearing subsurface niches are likely present on Mars.

AGU PUBLICATIONS

Geophysical Research Letters

Widespread excess ice in Arcadia Planitia, Mars

Ali M. Bramson[1], Shane Byrne[1], Nathaniel E. Putzig[2], Sarah Sutton[1], Jeffrey J. Plaut[3], T. Charles Brothers[4], and John W. Holt[4]



Nugget 4: The Shallow Radar (SHARAD) sounder on MRO has detected a subsurface layer in Arcadia Planitia that is mostly water ice. This ice sheet covers an area about the size of California and Texas combined and extends to 38°N latitude, where conditions are more favorable for human explorers than at the polar ice caps.

MEPAG support of future NASA missions

Scientific Objectives for the Human Exploration of Mars Science Analysis Group (HSO-SAG)

Next Orbiter Science Analysis Group (NEX-SAG)

2nd 2020 landing site workshop

1st landing site workshop (Exploration Zones) for human missions

Returned Sample Science Board for Mars 2020