

Interactive comment on “Silica diagenesis-driven fracturing in limestone: an example from the Ordovician of Central Pennsylvania” by Emily M. Hoyt and John N. Hooker

Vincenzo Guerriero (Referee)

vincenzo.guerriero@unina.it

Received and published: 19 June 2020

It would be interesting to consider the following as a possible alternative model for horizontal jointing: under hypothesis of early silica migration, and consequent shrinking, some internal/residual stress can be induced by heterogeneous chemical induced alterations. Namely, if some portion of a rock layer experiences shrinkage, the remaining part may bear the overburden, so prohibiting vertical contraction. This may justify the condition of vertically pinned rock layer. Should be noted that, as frequently rock compressive strength is larger than tensional strength of about one order of magnitude, a small portion of a rock layer (slightly over the 10% of the total) which is not subjected to

Printer-friendly version

Discussion paper



shrinkage is sufficient to induce tensional fracturing within the remaining part of such layer. Best regards, Vincenzo Guerriero

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2020-50>, 2020.

SED

Interactive
comment

Printer-friendly version

Discussion paper

