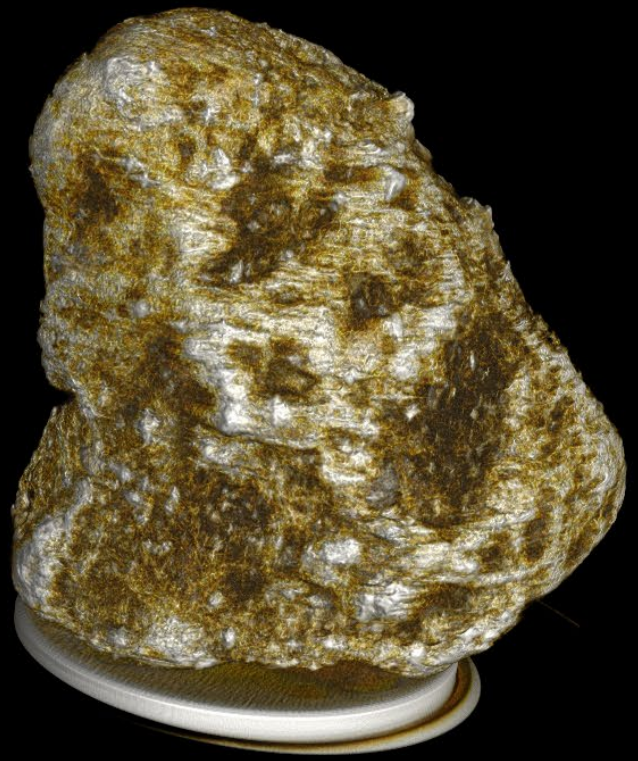
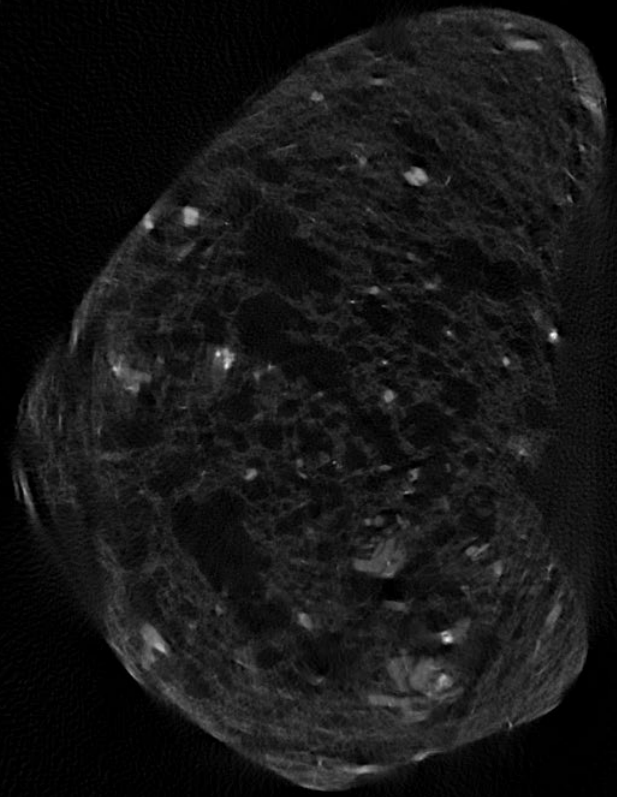

沖縄県本島近くの津堅島（つけんじま）に漂着した
軽石です。ところどころ黒かったり，光ったりしています。

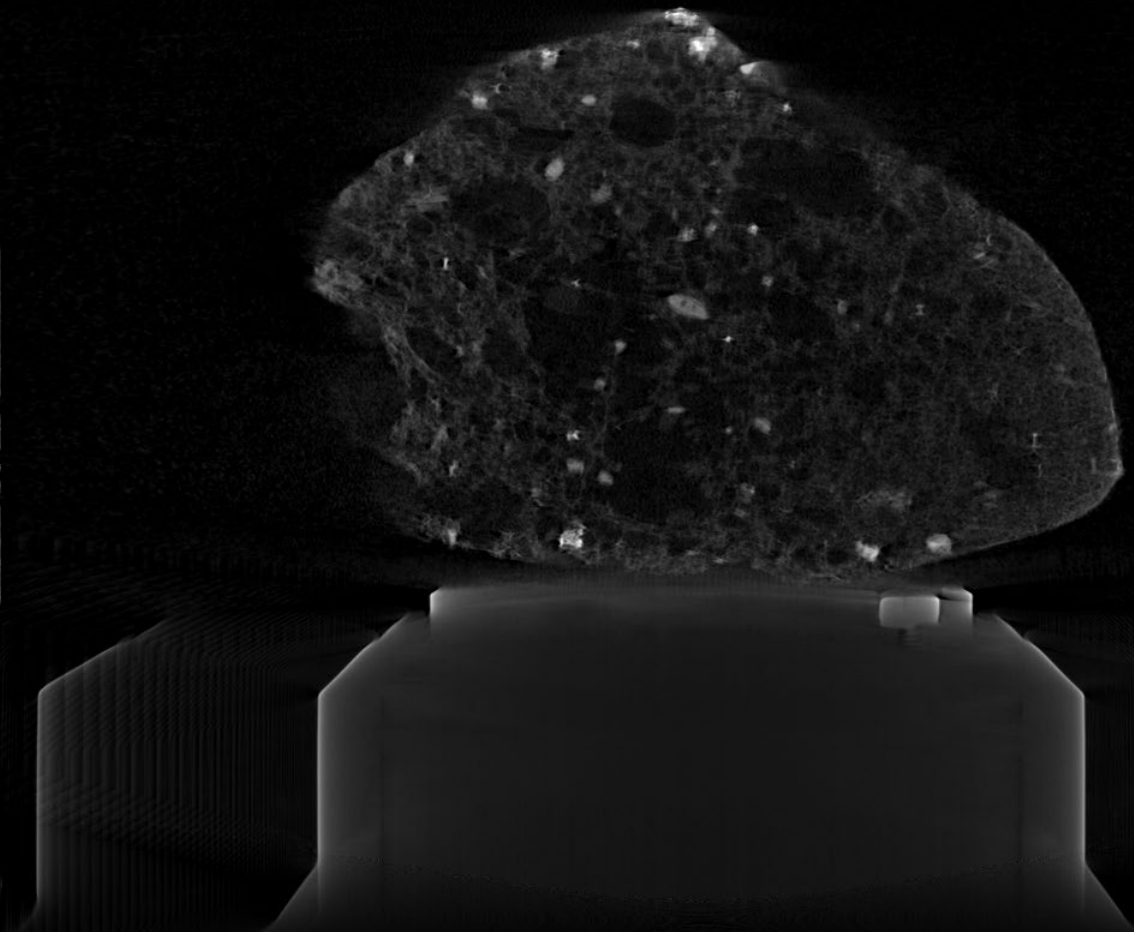
沖縄軽石Ｘ線ＣＴ



横断面



縦断面



沖縄軽石の活用：吸音・断熱壁

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Materials Transactions, Vol. 50, No. 2 (2009) pp. 373 to 380

Effect of Microscopic Internal Structure on Sound Absorption Properties of Polyurethane Foam by X-ray Computed Tomography Observations

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We investigated several conditions for manufacturing polyurethane foam for motor vehicle application to clarify the effect of the material structure on sound absorption performance in the low-frequency region. The objective is to reduce material weight without reducing noise absorption performance. We investigated the relationship between the internal microscopic structure and absorption performance by 3D analysis of X-ray computed tomography scanning observations. We found that the microscopic structural parameters of the material cells affect the sound absorption frequency and that they have a strong relationship with tortuosity, which is an acoustic parameter of porous materials. We also found that reducing cell size and making the cell frames thicker shifts the peak frequency of the sound absorption coefficient downward.
[doi:10.2320/matertrans.MRA2008207]

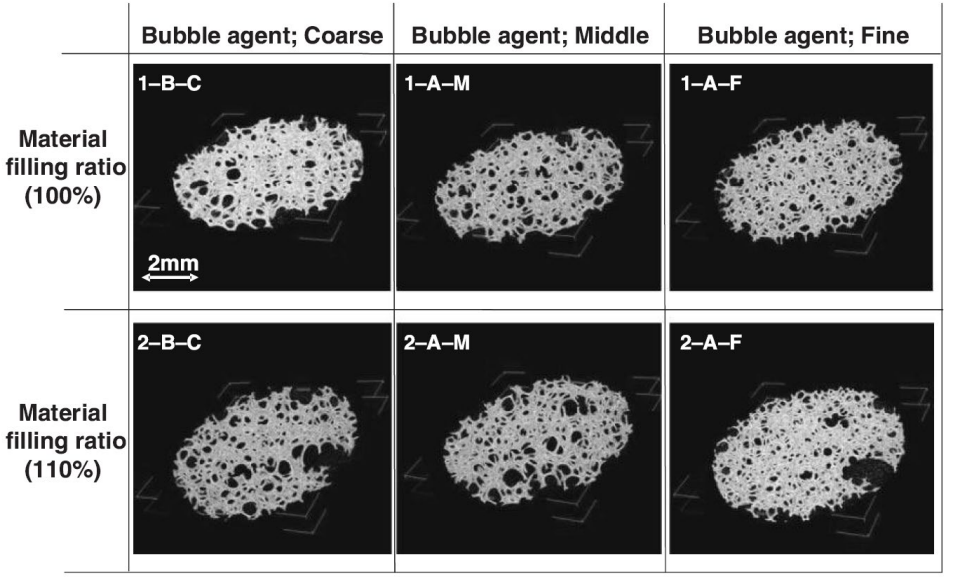

Fig. 3 3D modeling images of internal structure (observation depth: 12 mm ± 0.5 mm).

海底コンサートホールとか、壁材に使えるかも？