Percolating length scales in persistence diagrams from porous materials
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Our analysis of simulated random models and micro-CT images of sandstone rocks has demonstrated that the critical percolating sphere radii of the solid and void phases coincide with prominent length-scales in persistence diagrams derived from the distance to the interface function. The main reason for this is that creator and destroyer critical points can become significantly spatially separated at percolation. This talk will explain some older and more recent work exploring the connections between topological signatures and percolation thresholds.