

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Rapid and slow self-affine fracture in glass MOISES HINOJOSA, FIME-UANL, CLAUDIA GUERRA, DSM/DRECAM/SPCSI, France, LEONARDO CHAVEZ, EDGAR REYES-MELO, VIRGILIO GONZALEZ, FIME-UANL, PROGRAMA DOCTORAL EN INGENIERIA DE MATERIALES, FIME-UANL, MEXICO. TEAM, FRACTURE GROUP, SERVICE DE PHYSIQUE ET CHIMIE DES SURFACES ET INTERFACES, DSM/DRECAM/SPCSI, FRANCE. TEAM — We discuss the self-affine properties of the fracture surfaces of soda-lime glass obtained in conditions of both rapid and slow fracture in bending. The fracture surfaces were studied by SEM and AFM. The analysis of the mirror and mist-hackle zones for the two conditions suggest the existence of two well defined self-affine regimes governed by universal or attractor values. At low-speed/fine-scales the roughness exponent $\zeta = 0.5$ ζ dominates whereas the value $\zeta = 0.8$ is recovered for high-speed/large scales regimes. These values are subjected to significant deviations that give rise to a possible transitional regime at intermediate scales and speeds, where both attractor values may coexist, particularly in the case of slow fracture. In this context the transitional regime can thus be regarded as the result of the competition of these attractors at intermediate scales and velocities.

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Date submitted: 21 Nov 2006

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