

**Effect of stress on track formation in morphous iron boron alloy:
Ion tracks as elastic inclusions**

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In a recently developed model of ion beam induced plastic deformation of amorphous solids, ion tracks are described as cylindrical thermoelastic inclusions formed upon local heating and shear stress relaxation along the ion trajectories. According to this model, track formation can be influenced or even suppressed by an applied stress. This model prediction is tested by studying the influence of stress on the etching of tracks of 2.4 GeV Pb in foil samples of the glassy metal $\text{Fe}_{81}\text{B}_{13.5}\text{Si}_{3.5}\text{C}_2$, where a compressive in-plane stress was built up in limited zones by preirradiation with a high fluence of 200 MeV Xe ions. The variation of the size of the observed etch pits with the local stress is found to be consistent with the model predictions, thus confirming the thermal spike origin of the tracks.