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# Influence of Shear Deformation on Carbon Onions Stability under High Pressure

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**Abstract :** In this study we investigated the stability of polyhedral carbon onions under influence of shear deformation and high pressures above 43 GPa by means of by transmission electron microscopy (TEM) and Raman spectroscopy (RS). It was found that at pressures up to 29 GPa and shear deformations of 40 degrees the onions are stable. At shear deformation applying at pressures above 30 GPa carbon onions collapsed with formation of amorphous carbon. At pressures above 43 GPa diamond-like carbon (DLC) was obtained.

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