

Abstract Submitted
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Adsorption and Growth Studies of CF_4 on CF_3Cl - Covered HOPG¹ PETROS THOMAS, DANIEL VELAZQUEZ, GEORGE HESS, Univ. of Virginia — We have studied the adsorption and growth of CF_4 on a CF_3Cl -covered graphite surface from 60 K to 105 K, using infrared reflection absorption spectroscopy (IRAS) supplemented by ellipsometry. For the monolayer liquid phase of CF_3Cl , the CF_4 initially mixes/dissolves in the CF_3Cl layer and then continuously replaces the CF_3Cl on the surface. However, there remains a trace of CF_3Cl even after a number of layers of CF_4 are deposited on the surface. The orientation of the residual CF_3Cl is different from the orientation of the original CF_3Cl monolayer. For the monolayer solid phases of CF_3Cl , the CF_4 adsorbs on top of the CF_3Cl layer, with little or no solubility. With two layers of CF_3Cl on the graphite, CF_4 displaces one of the layers and adsorbs on top of the remaining layer.

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