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Atomic structure of corrugated graphene YOU LIN, XIANG GU, IVAN OLEYNIK, University of South Florida, CARTER WHITE, Naval Research Laboratory — Following its successful isolation, there has been intense interest in a single sheet of graphite, known as graphene, due to its fundamental physical properties as well as its promising applications in nanoelectronic devices. Recent experimental studies of graphene, freely suspended on nanofabricated scaffolding, found appreciable deviations from a perfect two-dimensional crystalline structure [1]. In this presentation, we discuss results of atomistic modeling of graphene with the occurrence of possible corrugated structures examined under the influence of several factors including sample size and temperature. [1] J.C. Meyer, *et al*, Nature **446**, 60 (2007)

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