

Abstract Submitted
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Large-scale production of Graphene Nanoribbons with controlled width: Electrical Properties of Graphene Nanoribbon Films¹ VIKAS BERRY, NIHAR MOHANTY, ASHVIN NAGARAJA, Kansas State University, DAVID MOORE, University of Kansas — In this talk, we will demonstrate a novel large scale production (10^7 ribbons/ sec) scheme for several microns long, smooth-edged graphene nanoribbons (GNRs) with controlled widths (from 5 – 50 nm). We will then present detailed structural, optical and electrical properties of GNR-films ~ 100 nm thick produced from 5, 15, and 45 nm wide GNRs; including their band-gap evolution and electrical transport mechanism. The high throughput method to synthesize GNR of high-quality will be a quantum leap in the graphene research. The work intends to bridge the gaps in the understanding of monodisperse-GNR film properties.

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